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THE UNIVERSITY OF ALBERTA

Depressive Symptomatology, Locus of Control, Self-Esteem, and Identity in the General Population

by

Brian Mc Donald

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF M.Ed., in Counselling Psychology

Department of Educational Psychology

EDMONTON, ALBERTA

Spring, 1988

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THE UNIVERSITY OF ALBERTA

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The undersigned certify that they have read, and recommended to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Depressive Symptomatology, Locus of Control, Self-Esteem, and Identity in the General Population submitted by Brian Mc Donald in partial fulfilment of the requirements for the degree of M.Ed., in Counselling Psychology.

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Date: April 13, 1988

Abstract

Relationships between depressive symptomatology, in the general population, and three variables (Locus of Control, Self-Esteem, and Identity) were examined. One hundred and sixty-two individuals, living in the vicinity of Edmonton, Alberta, completed four self-report instruments designed to appraise the above four variables. Additionally, in this study, the influences of age, gender, marital status, education and socioeconomic level (as determined by occupation) on the degree of depressive symptomatology reported and the efficiency characteristics of the tests employed was examined. Implications for counsellors were also discussed.

Scores on the Beck Depression Inventory (BDI) were used to estimate the degree of depressive symptomatology. Locus of control orientation was determined by scores from Levenson's IPC Scales and information on self-esteem was gathered through the use of Coopersmith's Self-Esteem Inventory (SEI, Adult Form). Finally, identity development was gauged by scores from Rasmussen's Ego Identity Scale (EIS).

Responses on the scales were divided at the median generating both high and low scoring groups. The mean depressive scores for each of the high and low groups from each measure were then analyzed by a series of Student's t-tests. Data was also examined using a series of Pearson Correlations. These statistical operations were first completed for the entire group of participants and then separately for those individuals age 18 to 28 and those 29 or older. For all procedures the criterion was placed at $p=.05$.

It was found that an external locus of control is associated with increased depressive symptoms but only with the younger group (ages 18-28; T value = -4.1 & -3.5). An internal locus of control was also associated with increased depressive symptoms but only with the younger age group (ages 18-28; T Value = 3.8). These trends were not found with the older group. Low scores on the Self-esteem and Identity scales were related to the increased reporting of depressive symptoms in both age populations (T value = 4.9 to 6.4).

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I. INTRODUCTION

For a variety of reasons, depression is an issue of much concern and professional interest for practitioners in the field of counselling. Firstly, depression is one of the major mental or emotional disturbances afflicting man. Observations of depressive type behaviors have been made far back in human history (Levitt, Lubin & Brooks, 1983; Rowe, 1978) and therapists and researchers alike have reported the great frequency of depressive symptoms in society (Hagnell, Lanke, Rorsman & Ojesjo, 1982; Weissman & Myers, 1978b; Zung, 1972) and the concomitant psychological pain. To fully comprehend the scope of the problem one need only review the data presented by Rehm & O'Hara (1979). For example, these two authors reported that the National Institute of Mental Health estimates about 15% of Americans demonstrate depressive symptoms at any one moment in time. Furthermore, several other experts have, after viewing the extent of the problem, suggested that this is the age of depression (Klerman, Weissman, Rounsaville & Chevron, 1984). Some evidence does suggest that at least the incidence of mild depression has increased in the last several years (Hagnell, Lanke, Rorsman & Ojesjo, 1982).

There is a second reason for viewing depression as an important construct. The consequences of a depressive episode involve numerous aspects of life. Depressive mood has been shown to lower life satisfaction, reduce work productivity, and has been associated with an increase in the frequency of physical health problems (Aneshensel, Frerichs & Huba, 1984). Furthermore, there is the possible link between feelings of depression and suicide (Sackler, 1981). Many authorities in the field believe depression is a reliable precursor to suicide (Murray, 1973). As a result of these many factors, depression represents a major social and personal difficulty that counselling clinicians may encounter in their work.

It can be seen that a counsellor could expect to be faced with clients experiencing depressive feelings. Although much research has been directed to this emotional problem, the

counsellor cannot always profit from the information gathered.

Historically, research into depression has concentrated on psychiatric or clinical populations (Blatt, D'Affitti & Quinlan, 1976; Levitt et al., 1983) but the main area of expertise for the counsellor is in the realm of non-clinical problems. To gather information relevant to counsellors, the community at large must be studied. Moreover, many believe there are distinct dissimilarities between clinical depression and the milder symptoms (often referred to as depressive mood) typically encountered in the general population (Angst, Clayton, Gershen, Hautizinger, Helmchen et al., 1982; Lips & Ng, 1986; Zung, 1971; 1972). Thus, the past clinical literature may not be appropriate for assisting counselling clinicians in dealing with the depression experienced by their clients.

In the last decade, new research directions have been pursued. Unfortunately, investigations regarding the general population have either been large scale epidemiological studies which involve global depressive classifications (e.g., Ensel, 1982) or smaller scale investigations which focused only upon specific isolated groups of people as participants such as university populations (e.g., Blaney & Ganellen, 1984; Hammen, 1980). The epidemiological research is valuable but provides little information on isolated variables or psychological constructs associated with depression. While investigations with college students (which analyze specific psychological variables) are more detailed in nature, the generalization of these results to the rest of society is questionable (Tanaka-Matsumi & Kameoka, 1986). A similar statement can be made for the few examinations of other limited populations such as alcoholics (e.g., Steer, McElroy & Beck, 1983).

In light of these methodological shortcomings, it does appear that a greater and more intricate examination of the general society in regards to symptoms of depression is needed. It seems important to determine the degree of relevance that past studies have for the general population. Information and trends elicited through studying the general community could assist counsellors in dealing with their clients who are exhibiting depressive symptomatology.

The format of this report is as follows. Under the heading, "Review of the Literature", depression and the three other variables to be examined are considered separately and in detail. Initially, depression is discussed along with the influences of various demographic variables: age, gender, education, marital status, and socioeconomic status on reported depression and depressive symptoms. In addition, locus of control, self-esteem, and identity are examined. Research literature regarding possible connections between the latter variables and depression are presented.

Analysis of all studies reviewed emphasizes two features. First, the nature of the participants employed to arrive at the results is carefully examined, and secondly, the means by which the variables were measured is thoroughly covered.

Following the review of the literature, some considerable space has been devoted to describing the nature, advantages and disadvantages of all four measuring devices employed in the study. Next, hypotheses being examined are presented and the research methodology is explained. In Chapter V results of this study are presented and this report is concluded with the limitations of the study and possible implications.

Because of the nature of this investigation it may be of value, before proceeding with the review of the literature, to briefly discuss the meaning and nature of psychological constructs. It is important to clearly state that depression and the other three variables under examination are all viewed as hypothetical or psychological constructs herein.

The purpose behind considering the nature of psychological constructs concerns two important points. Constructs are often vague and their definitions find little agreement among professionals. Thus, it becomes difficult to compare research regarding such psychological constructs. This problem has great relevance for the current study and considerable space is devoted to adequately defining the variables being examined. Secondly, because of the vagueness associated with constructs, it becomes important to closely analyze how measurements of these variables are gathered. It has happened that a construct is defined adequately but the methods employed to gather data on that construct do not match the

definition. Essentially, the author discusses one construct, but measures something else. These measures are then used to support his or her stand. In the current investigation, strong effort is devoted to defining the variables being examined so that accurate measurements can be collected.

A. The Nature of Constructs

In the physical sciences, constructs are rather unusual and frequently unliked. Constructs are, however, often required for social science research involving people and society. Importantly, constructs are not actual entities that can be touched, observed and directly measured. As defined by Chaplin (1968) hypothetical constructs are "processes inferred to have real existence to give rise to measurable phenomena". Constructs are believed or assumed to exist based on behavioral observations (Hilgard, Atkinson & Atkinson, 1979). By approaching these psychological attributes as if they exist, psychological processes become more amenable to being measured in a consistent fashion.

Several authorities have differentiated between two varying forms of constructs (Mahoney, 1974; MacCorquodale & Meehl, 1948). They define hypothetical constructs as inferred factors believed to be capable of being observed, but which are not presently observable. Intervening variables, in contrast, are totally unobservable. Theoretically, such a distinction is undoubtedly valuable. In common usage, however, psychological constructs tend to be partially hypothetical and partially inferred and the constructs being discussed in the present study do follow this latter trend. For example, some components of depression are observable whereas other components of the construct are not. Locus of control and the other constructs are also very similar to inferred variables, but there are aspects of each variable which can be observed.

Constructs are developed in a rather obscure fashion. Firstly, relationships, processes, and phenomena, (believed to be strongly related and which tend to be found together) are grouped to form a single construct which is then given a name. Depression, for example,

consists of numerous symptoms. Some of these symptoms are observable; others are not observable but collectively they form the construct.

As explained by Rowe (1978) there are advantages to the use of hypothetical constructs. They assist individuals by generating and impressing both structure and form on a substantial mass of relationships. In doing so, they permit the arrangement of psychological phenomena in a way that allows the human mind an easier grasp and understanding of what is happening. Trends become recognizable. Observations and measurements become more systemized and meaningful. This leads to conclusions that make more practical sense, and to the end result being an increase in scientific knowledge.

Mahoney (1974) suggests psychological constructs are justified to the degree in which they increase predictive accuracy or lead to greater comprehension. He is of the belief that, of the two, prediction is most important. In many instances, constructs do increase the accuracy of predictions regarding people and social activities. In regard to counsellors, the depression construct may assist them in predicting how an individual will react in therapy.

Associated with the nature of constructs is the utilization of operational definitions. The function of an operational definition is to give empirical meaning to constructs so that all individuals concerned have the same comprehension of terms being used. But there is much more belonging to any construct than what is involved with the operational term (Wallach, 1971). Definitions tend to consist mainly of the most crucial aspects of the construct as determined by the discussion of the author. In terms of this study, operational definitions for each of the variables being examined are presented in the "Review of the Literature" section.

A second related issue concerns construct validity. As Graham & Lilly (1984) explain, construct validity is the total amount of understanding about what an instrument or test measures. It is possible that the construct underlying an instrument is very similar to both the hypothetical construct being discussed and the operational definition given (e.g., Self-Esteem & Coopersmith's Self-Esteem Inventory). Yet, there are instances where the two are distinctly different (e.g., Depression & Beck Depression Inventory).

Cronback & Meehl (1955) point to one last important feature of constructs. These authors clearly state that a construct is something believed to be part of people and assumed to be measured by a specific instrument. Here lies the crucial problem for the current investigation. The relationship between the operational definition of a construct, the test or scale utilized to measure that construct, and the construct validity of the test are all crucial to any conclusions made from the data gathered. There should be a strong concordance between hypothetical constructs, the operational definition in use, and the construct underlying the measuring device before solid conclusions can be made from scores gathered. As Cronbach & Meehl (1955) stipulated, any research conclusions should be based first on the construct validity of a test that is being employed to measure the psychological construct.

An example might clarify this issue. To determine what form of test would be appropriate for measuring self-esteem a researcher must have some conceptualization of what the constituent parts of the self-esteem construct are. The researcher can then review the items on the test and examine the manner in which the test has been applied in the past to decide if the construct underlying the instrument is similar to the construct to be examined. The study can then be undertaken using the scale and results would reflect the variable under investigation which, in this example, would be self-esteem. It is possible, and sometimes quite common for a discussion of self-esteem to be followed by a self-concept measure which, (as will become clear later), is conceptually erroneous unless the self-esteem term is operationally defined as self-concept. In such a study, self-concept is being measured but the author is making conclusions regarding self-esteem which may lead to many mistaken beliefs. Confusions in this way could lead to many of the contradictory and inconsistent findings in psychological research.

It is apparent that measuring instruments are a pressing concern in research dealing with constructs (Bingham, 1983). Consequently, measuring tools employed in this study are a focal point of analysis. In the "Review of the Literature" section an attempt has been made to describe the constructs as they are presently being applied in the scientific literature. However,

all data gathered from measuring instruments cannot be immediately assumed to reflect the constructs under analysis. Many researchers are aware that the precise measurement of psychological or personality constructs is not a simple feat (Bourne, 1978A) and that caution must be exercised. A relevant instance is the Beck Depression Inventory. Scores from the BDI cannot be assumed to represent the total construct of depression for it gives no information on many aspects of depression such as classification.

Authorities in the field suggest the BDI merely indicates the presence and intensity of depressive symptomatology. Therefore, although the depression construct and others are discussed, operational definitions are based solely on the constructs that the scales being used measure - the BDI measures symptoms and the intensity of these symptoms - not depression. Conclusions derived from the study are based first on the constructional underpinning of the scales. Then, speculations are made regarding other features of the constructs in question. Again examining the BDI, any conclusions based on this scale are examined with regard to depressive symptoms in the population. Speculations are then made on how such symptoms reflect on the existence of depression.

In a later section where the tests are described, the nomological net for each of the measuring scales is presented. The intention is to determine how closely alike the constructs, (reported to underlie the scales) are with the hypothetical construct being considered in this report.

II. REVIEW OF THE LITERATURE

A. Introduction

Literature from the scientific community relevant to depression is extensive and one investigation could not ever hope to provide a review of the massed knowledge. Instead, attention is herein directed towards delineating the traits, feelings and behaviors that make up the construct of depression. As well, apparent associations between a variety of demographic variables and depression will be focused on. Time is also spent on describing and defining the three other psychological constructs and reviewing the research that demonstrate relationships between these constructs and depression.

The description of depression is dealt with first. The locus of control construct is then introduced. Several investigations have been conducted into the association between control orientation and aspects of depression, but no definitive conclusions can be made due to methodological and instrumental difficulties. Researchers have mainly tested university students and have employed several different theoretically-based measuring devices. The connection between depression and self-esteem has been looked at for some time, and is discussed also. Lastly, in terms of identity formation, empirical evidence of an association or non-association between identity development and depression is severely limited.

B. Depression

Arriving at a precise definition of depression is arduous. There are numerous conceptualizations of this construct (Klerman et al, 1984; Bagley, 1973) with etiology, manifestations of the disorder, and treatment procedures all varying. Furthermore, the term "depression", has been used to refer to forms of normal emotions, normal mood states and to types of psychological disorders. Experts generally agree that most, if not all, people exhibit some form of depressive mood or symptoms at some point in their lives (Klerman, 1982; Murray, 1973) and that experiencing aspects of depression is part of being human. People

may feel sad, "down", or "blue" (which are normal rather than abnormal symptoms of depression) for a variety of reasons including the occurrence of stressful life events (Gibson, 1978) or the death of someone close (Dominian, 1976). In terms of the DSM III classification systems, most individuals feeling this way would not be viewed as having an affective depressive illness but are often said to be suffering from a normal depressive mood (Angst, 1982). Today, there remains some debate concerning at what precise degree a normal sad mood transforms into a psychological disorder (Marsella, Sartorius, Jablensky & Fenton, 1985). It can be seen that, although the word "depression" is frequently used in daily living as well as by professionals, it remains vague (Freden, 1982).

The two most commonly cited symptoms of depression are the presence of a dysphoric mood (sadness and worry) and a loss of interest in usually enjoyable activities (Freden, 1982; Sarason & Sarason, 1980; Rehm & O'Hara, 1979). For purposes of this study, the sad mood seems to be the most crucial symptom. In the general population depression is most often associated with sadness and in daily conversation the two terms (depression & sadness) are often applied interchangeably. Other symptoms are also included in depression but are less fixed as part of the construct. The less fixed symptoms include low self-esteem, sleep disturbances, eating disturbances, thinking disturbances and motor disturbances. The specific form that the disturbances take depends on the definition of depression being used at the time. For example, some clinicians view overeating as a sign of depression whereas others consider undereating to be a sign of depression. Occasionally, both undereating and overeating are seen as symptoms of depression. In this study, depression is operationally defined as sadness and the reduction of experienced pleasure from commonly pleasurable events with a variety of associated symptoms that may or may not be presented. The crucial factor is that these symptoms must continue for a significant period of time and affect daily living.

With this operational definition of depression in effect it becomes difficult to examine depression as a clinical syndrome within the current investigation. This is because the instrument used to measure the depressive construct (Beck Depression Inventory, BDI)

provides no information concerning the duration of the symptoms reported. The instrument provides information on the presence of depressive symptoms and the intensity of those symptoms only. As a consequently, no clear distinctions can be made concerning the presence of a depressive syndrome from BDI scores.

Due to the large group of symptoms often recognized as indicators of depression, numerous attempts have been made to develop subclassifications (Levitt et al, 1983). Little agreement is found, however, between theorists, therapists, or researchers on what constitutes an adequate classification system (Schatzberg, 1978). The sub-groups will not be discussed since, in this study, information on symptoms was gathered rather than data on classifications.

The BDI was administered as a measure of depressive symptoms in this study. The scale contains items covering twenty-one symptoms. Research has provided much support for the placement of many of these symptoms into the depression syndrome. The intention of this study is to build on the field of research by adding additional features to the depression construct concerning its relationship with other psychological variables. If low self-esteem exists in the constellation referred to as depression than those reporting lower self-esteem scores as opposed to those reporting higher self-esteem should have higher scores in depressive symptoms.

C. Demographics and Depression

The depression construct relates to various demographic variables. Both past and recent investigators have suggested that measures of depression deviate significantly as a product of the following:

1. Gender
2. Age
3. Marital Status
4. Education

5. Socioeconomic Status

Participants in this research investigation were requested to provide information on all five of these variables.

Gender

Overwhelmingly, the most replicated finding in the field of depression concerns a gender difference in reported depression (Dean, 1985; Wing & Bebbington, 1985). Some researchers have not found differences between the amount or intensity of depression reported by males and females (Robbins & Tanack, 1984; Egeland & Holstetter, 1983; Roberts & O'Keefe, 1981). In the majority of studies, however, and in almost all of the large, well designed projects, females have been shown to have higher rates of clinical depression (non-polar type) and a greater frequency of depressive symptoms (Dean & Ensel, 1982; Ensel, 1982; Weissman & Myers, 1978a). As an example, Ensel (1982), worked with a very large epidemiological sample and using a self-reporting depressive scale he determined that women reported more depressive symptoms than men for all categories examined (e.g., married/unmarried).

Inferring that females are more depressed based on the above evidence pertaining to symptoms is debatable. However, a Swedish investigation (Hagnell et al, 1982) relying on interviews did find that females were more often diagnosed as depressed. This study contained a exceptionally large representative sample of the general population and in addition, covered the years from 1947 to 1972. It does appear that females report greater amounts of symptoms and are more often diagnosed as depressed. The actual quantitative differences found between the sexes, however, have been relatively small.

The relationship between depression and gender is not so straightforward. Clayton (1982) presented limiting aspects of this relationship. He found the depression contrast between the sexes to be highest in community samples with milder forms of depression, but with increased severity (Bipolar depression) the male/female ratio decreases and becomes

equal in many instances. This author goes on to suggest that the true gender difference is not as large as was first apparent, but that women continue to report higher rates of depression.

It is expected that the gender contrast will be of some significance in the study conducted especially since the respondents will consist of a community sample. Many authorities (e.g., Wetzel, 1984) feel that gender is a major causal variable with regards to depression, however, the typically small differences between males and females suggest that gender is not overly critical. Based on these results, Levitt et al (1983) maintain that sex type is not a causal factor for depression.

A variety of theories have been proposed to explain the gender phenomena (Roberts & O'Keefe, 1981; Rosenfield, 1980). No one theory has been agreed upon. For the purposes of this investigation, the theories need not be discussed. If the gender divergence is included in the network of relationships defining the depression construct, however, then it is a variable needing examination. Participants in the current investigation have been requested to report their gender, which permits the investigator to compare the self-reported symptomatology for males and females.

Age

Less consistent results have been found for the influence of chronological age on depression (Weissman & Myers, 1978b). While some investigators argue that there is no relationship between the two (Stoudemire & Blazer, 1985; Wing & Bebbington, 1985; Roberts & O'Keefe, 1981) others report higher rates of depression with increased age. Levitt et al, (1983) administered a mood-state depression measure to a large community sample. Older groups in this study reported greater incidences of depression than younger groups, but the actual quantitative differences were small. The authors concluded that depression is more frequent in older persons but age itself is not an important causal variable.

A few authorities in the area take the opposite stand. They believe that depression is greater in the younger years (Dean, 1985; Murray, 1973). Weissman & Myers (1978b) found

both trends. In their large study, females reported the highest level of depressive symptoms in the earlier years, whereas males reported higher levels of depression in the later years. Three other investigations (Schwab, Holzer & Warheit, 1973; Warheit, Holzer & Schwab, 1973; Zung, 1972) resulted in a possible resolution to these contradictory findings. These authors set forth the notion suggesting that depression is not linearly related but bimodally related to age. In their research, depression was found to be higher in the younger subjects (before the age of 19) and higher in subject older than 70. Clinicians have also pointed to similar bimodal trends (Gibson, 1978) and there is the additional evidence suggesting younger individuals recuperate from depressive experience at a quicker rate and that the stability of depression increases with age (Aneshensel, Frerichs & Huba, 1984). Most researchers have not found this bimodal trend because so few studies have sampled such a large age range.

Methodological problems prevent any firm conclusions from being made in regard to the depression-age connection. As indicated earlier, the researchers comparing age variables have focused almost totally on an older population; age 18 and older (Dean, 1985; Weissman, 1982) and on special segments of the elderly population (Ensel, 1982). Responding participants have often resided in institutions for the elderly.

It would appear beneficial to undertake an additional examination of the age factor in a community sample. Participants in this study were asked to record their age and age ranges were combined into the following five groups of ten years:

1. 18-28
2. 29-39
3. 40-50
4. 51-61
5. 62

It should be noticed that ages of participants are not lower than 18, so no information on depressive symptoms in the younger years can be gathered.

Marital Status

The relationship between marital status and depression is in no way clear, since some investigators have found contradictory trends. However, the indication from the majority of investigations looking at a marital/depression association suggest single individuals report higher levels of depressive symptoms than married individuals (Dean, 1985; Ensel, 1982; Kessler & Essex, 1982; Warheit, Holzer & Schwab, 1973). In the study conducted by Levitt et al (1983) single individuals were more depressive oriented. Kessler & Essex (1982) also found depression levels to be highest in the nonmarrital groups and these authors advanced the notion that life stress has less of a depressive influence on married individuals than on singles. Perhaps married people have more resources and energy on hand to deal with stress. It would probably be interesting to determine if cohabitating couples are equally resistant to depressive moods.

In a more detailed analysis which employed a large epidemiological sample and assessed depressive symptoms through interviews, it was discovered that it was not singles per se but divorced persons who have the higher depressive scores (Weissman & Myers, 1978b). The slightly different finding by Ensel (1982) suggest that it may be unmarried females who are primarily responsible for the marital contrast. Wing & Bebbington (1985) believe that young married women with small children have a greater risk factor for experiencing depression and so this special group of individuals may not follow the general pattern.

In conducting research into marital status it appears very important to refine marital demographics. It seems especially important to determine and separate the scores received by divorced participants from the scores achieved by single individuals. This study examined evidence concerning marital trends by gathering information on four conditions:

1. Married
2. Divorced
3. Single
4. Other

Education

Little information has been provided in the area of education because it has traditionally been viewed as just one more feature of the more global socioeconomic status variable (Levitt et al, 1983). When dealt with separately, epidemiological investigations have yielded results demonstrating a negative relationship between education level and depression. Depressive symptoms decrease with increased education (Levitt et al, 1983; Weissman & Myers, 1978b). It must be stipulated that this conclusion is based on estimates of attained schooling, not present enrollment. Investigations examining current schooling seem to point to higher depressive levels for individuals who are currently completing their education (Burger, 1984; Ensel, 1982).

In this current study, respondents were not questioned on their current education status, but were requested to indicate their highest education level attained. It should be kept in mind that some of the participants in this study, especially young adults reporting a university education could be currently in school working at that level. Combining individuals still enrolled in school with those who have completed has been followed in this study.

Socioeconomic Status

It is important to determine the degree to which depressive scores and trends are an artifact of socioeconomic status (SES) rather than general to the entire community. Failure to account for SES is, after all, one of the major criticism of the research investigations dealing solely with university and college students.

In the literature, increased symptomatology of depression have been associated with lower socioeconomic status (Weissman & Myers, 1978a; 1978b; Warheit et al, 1973). It is conceivable that the SES variable may be just behind gender as the most significant demographic variable involved with depressive signs. After applying a multiple regression analysis to a series of demographic variables (Warheit et al, 1973), SES was found to be one of the two variables remaining significantly correlated with depression.

As with gender, for SES there seems to be a distinction between bipolar illness and both nonpolar depression and depressive symptoms. Bipolar depressive illness may either have a higher frequency in the upper SES groups (Weissman & Myers, 1978b; Bagley, 1973) or have no relationship at all to SES. On the other hand, depression and depressive symptoms follow the trends described earlier. Weissman (1982) surveyed a community sample and examined depressive illness through interviews and a clinical rating scale. She found a greater frequency of mild depression in lower social classes, but the presence of lifetime major depression was more frequent in higher social statuses. Levitt et al (1983) found similar trends. Still, some researchers have not found this relationship (Ensel, 1982). Weissman & Boyd (1982), for example, are of the opinion that nonbipolar depression has no specific relationship to socioeconomic status. Perhaps each social class has class-specific stress factors and events leading to the milder forms of depression.

Socioeconomic status has, in this study, been recorded for participants by employing occupation as a criteria for SES. All respondents were requested to record their current occupation and people who were not working were asked to list their last job. Unemployed respondents who had never worked in a full-time position and who were living at home were asked to list their father's occupation. Homemakers were asked to list there husbands occupation. Each person was then given an four digit index number based on the occupation listed as delineated by Blishen & Mc Roberts (1976) in their socioeconomic index for occupations in Canada.

Summary

In summation, the construct of depression is often difficult and confusing to study due to terminological ambiguities, inconsistences in the symptoms incorporated into the depression syndrome, and to poor classification procedures.

For these reasons the main discussion in this report will be restricted to the presence or absence of symptomatology as measured by the BDI rather than the presence or absence of

a depressive illness. The general trends between various demographic variables and depression have been described and while some findings have been consistent, others have been contradictory. Additionally, it is crucial to mention that the actual relationships involved are extremely complicated and multifaceted since the demographic variables interact among themselves to influence depression scores (Ensel, 1982; Weissman & Myers, 1978b). Moreover, the actual extent of the influence or variance accounted for by these variables is exceedingly small in most research. Demographic variables do not seem to be accurate predictors of depression and appear to have little causal significance. Incorporating all of the findings, those who are at highest risk for depression seem to be young, single females of lower socioeconomic groups with limited education.

D. Locus of Control

Control and authority issues are important features of life (L'Abate, 1986). People are often preoccupied with attempts to determine who or what governs the consequences of life. When professionals in the psychological fields discuss control they often refer to the locus of control construct.

Locus of Control has been defined in numerous ways (Palenzuela, 1984; Wong & Sproule, 1984) but the development of this construct has been mainly attributed to Julian Rotter and his colleagues. Locus of Control refers to generalized perceptions or expectations regarding the control over environmental reinforcement. Rotter (1966) segments this construct into a dichotomy: external and internal locus of control.

An external locus of control refers to a tendency for an individual to typically believe that reinforcement is governed by forces outside of him or herself. Individual behavior has no influence over the receiving of reinforcement. Internal locus of control refers to a tendency for a person to feel reinforcement is contingent upon his or her behavior. These perceptions need not be solely one or the other. Most theorists maintain that the two dimensions (internal

and external) are opposite poles along a single continuum (Rotter, 1975) and that individuals have consistently stronger and stable perceptions of control in one pole-direction (Rotter, 1966). Also, it is assumed there are both individual and situational differences along the continuum. Consequently, some individuals will most often have internal control perceptions, others will most often have external control perceptions and the form of control perceptions may change moderately across situations (Rotter, 1966).

This construct, like all constructs, was developed to serve a function. It was designed to increase the ability to predict the reactions by people to reinforcement in general and to reinforcement in various situations. That is, because an external person does not expect reinforcement to be hinged on personal actions, such a person is less likely to repeat a behavior followed by positive reinforcement and less likely to inhibit an action followed by the lack of reinforcement or negative consequences. In other words, externally oriented individuals are influenced less by environmental reinforcement contingencies.

Several major and minor alterations have been made to the theories presented by Rotter (Wong & Sproule, 1984) most of which have generated a great deal of conceptual confusion when analyzing this control construct. The most significant modification, for the purposes of this investigation, is the change from a dual dimension to a multiple dimension (Blaney & Ganellen, 1984; Fry & Grover, 1982). In light of the fact that the IPC Scales developed by Levenson was employed in the study as a measure of control perceptions, her multiple dimensional approach is most important for the present discussion.

Levenson (1981) actually adheres to many of the formulations developed by Rotter but she further segments external locus of control into two additional dimensions. One external dimension refers to beliefs in chance or luck (randomness) as the main power source. The second external position refers to the belief that people in positions of authority and influence determine reinforcement. The notion being advanced by Levenson is that, with expectations that other people rule over life events (which is external in nature), individuals retain some potentiality for personal control by being able to influence or predict what those

in power will do. An individual could then develop some influence over the occurrences of reinforcement and maintain some indirect sense of personal control. If life events are a product of random factors (chance) there is no opportunity for influencing or predicting reinforcement and so no real manner of eliciting internal control. Recent research has supported this multidimensional approach. The operational definition of the locus of control construct being employed in this report consists of the three control orientations defined by Levenson (Internal, Powerful Others, and Chance).

The great mass of research into control beliefs indicates that the influence of control perceptions are both pervasive and affect the beliefs or perceptions held by people in many other areas of life. As Fry & Grover (1982) advise, control orientation may be a central organizer of behavior. Control beliefs could alter or determine both self-perceptions and world-perceptions and thus it appears reasonable to expect locus of control to be in some way related to the occurrence of depressive symptoms.

Locus of Control and Depression

In evaluating the possible causes of depression, many cognitive behaviorist and other authorities stressing human cognitions (e.g., Beck, 1967), have examined the impact of negative cognitions and negative sets on mood states and behavior. Beliefs regarding the locus of control are one form of cognitions that have received much attention.

Several investigators have examined possible links between generalized control orientations and aspects related to depression (e.g., Siegel & Griffin, 1984). Their general conclusion has been that externality is inherently unhealthy or maladaptive and associated with increased depression and increased number of depressive symptoms (Donovan & O'Leary, 1983). For instance, Warren & McEachren (1983) found a negative relationship between depression symptomatology and what the authors referred to as "life control". This study could provide some basis for a connection but little can be said since the two researchers used obscure and unknown tests. Donovan & O'Leary (1983) also reported that locus of

control has been shown to be related to depression as measured by both the MMPI and Beck Depression Inventory. Others, however, have found no relationship between life satisfaction and locus of control (Kabanoff & Ashton, 1984) which seems contradictory.

Most investigators, in conducting research into the locus of control construct, have employed the Rotter I-E scale for assessing control beliefs. This device is based on the dual control dimension postulated by Rotter which has come under fire (Rehm & O'Hara, 1979). Where the I-E scale has been used, inconsistent findings have resulted (Moore & Paolillo, 1984; Donovan, Radford, Chaney & O'Leary, 1977; Abramowitze, 1969). The researchers, Emmelkamp & Cohen-Kettenis (1975), found a low but positive relationship between externality and self-reports of depression but O'Leary, Donovan, Cysewski & Chaney (1977) and Rosenbaum & Raz (1977) failed to find any relationship. O'Leary et al (1977) administered the I-E scale and the BDI (among other tests) to institutionalized alcoholics and found no difference in mean depression scores between those reporting beliefs in external control and those reporting beliefs in internal control. Murray (1973) also did not find a relationship between depressive feelings and scores on the I-E Scale. A study by Donovan et al (1977) did result in correlations between externality and depression scores in a group made up of alcoholics and nonalcoholics. These authors, however, attributed the correlations they found to the belief that depressed people tend to score negative items irrespective of the contents of the items (Beck, 1967) or what has been called a mood response set. Consequently, the correlations may be an artifact of a mood response set rather than representing an actual relationship between the two constructs. In western society, external oriented items could be viewed as negative in content so there may be some basis for the conclusion by Donovan et al (1977). Rehm & O'Hara (1979) also pointed to problems of a negative mood response set when using the I-E scale.

The current report employs Levenson's measure of control orientation (IPC Scales). Investigations using the IPC Scales have been more successful and more consistent (Blaney & Ganellen, 1984; Levenson, 1973). Molinari & Khanna (1981) demonstrated, by examining

university students, a small positive correlation ($r = .27$) between beliefs in chance control and depression. A slightly higher negative correlation ($r = -.39$) was found between internality and depression but the researchers did not find a difference in group depression scores between the external and internal groups. Several methodological problems existed in this study which could account for the lack of mean difference. For example, a small subject sample was used along with a very restricted subject selection process. Burger (1984), utilizing the IPC scales and the BDI among college students, also found a positive relationship between chance beliefs and depressive symptoms ($r = .59$). Furthermore, correlations with depressive symptoms, reported six months later, remained high. A follow-up analysis indicated that groups scoring low on the internal scale, high on the powerful others scale, and high on the chance scale had correspondingly higher depressive scores. The number of days depressed was also determined to be associated with strong beliefs in the power of chance factors. Thus, Burger (1984) has presented evidence that an external locus of control is not only related to current and future depression symptoms, but also to the repeated presence of the symptoms. These studies imply that an external orientation is one feature of the cognitive or attributional patterns demonstrated by depressed individuals (Donovan & O'Leary, 1983; Rehm & O'Hara, 1979; Beck, 1967). However, research concerning group differences in depressive symptoms does appear to be needed to further substantiate this postulate. For this reason, the current investigation was conducted.

Reviewing a related construct, "learned helplessness", provides additional support for the control-depression interaction (Burger & Arkin, 1980; O'Leary et al, 1977; Cohen, Rothbart & Phillips, 1976; Miller & Seligman, 1975). Many authorities and researchers have determined the existence of a strong association between feelings and expectations of helplessness and depression. They have advanced the theory that depression results from a personal history of reinforcement being unrelated to or noncontingent upon behavioral actions. Individuals who feel helpless (not in control) may be less likely to make attempts to solve problems and thus exhibit behaviors resembling depressive symptomatology (Lefcourt,

1982; Rehm & O'Hara, 1979). It can be seen that the theory of "Learned Helplessness" provides a theoretical link between control beliefs and depression. Helplessness is an external locus of control. Palenzuela (1984) suggests that the constructs of "learned helplessness" and "locus of control" are synonymous and recommends that they be combined since both emphasize expectancies about the possible reinforcement achieved from behavior. Other authors have also pointed out the similarities between the two constructs (Molinari & Khanna, 1981).

There are several difficulties encountered with the above collection of research. First, subjects in the studies were either college students (e.g., Blaney & Ganellen, 1984; Burger, 1984) or other forms of special populations (e.g., Fry & Grover, 1982; Moyal, 1977) such as alcoholics (e.g., Donovan et al, 1977) and psychiatric patients (e.g., Levenson, 1973; Moore & Paolillo, 1984). It has been mentioned before that the generalization of these studies to the population at large is problematic. In this study, therefore, support will be sought by testing a segment of the general community.

A second problem in the literature concerns the use of a wide variety of measuring instruments. Several diverse scales have been used to assess locus of control, many of which are based on radically different conceptualizations of the construct. As a consequence, results from the many measures have not been consistent. The multidimensional approach employed in the IPC Scales has resulted in the most consistent findings and so was used in this study.

Furthermore, like other investigators, those involved in the study of control have possessed several varying views of the depression construct. Some have approached (e.g., Levenson, 1973) by means of clinical depression. Others have concentrated on depressive symptoms (e.g., O'Leary et al, 1977). There is some debate over whether these different approaches have resulted in similar trends and it is even doubted whether the dissimilar approaches should be expected to demonstrate similar trends since different forms or conceptualizations may interact in slightly different fashion with the locus of control variable. Within this study, all conclusions are restricted to depressive symptomatology as measured by

the BDI.

A fourth research problem concerns the statistical methods used. Most investigators have related depression to control orientation through the application of correlations. Few employ more refined procedures which seriously limits conclusions. Moreover, the correlations found are generally in the low to moderate range meaning only a low to moderate amount of variance is accounted for by the variables in question. Investigations using more refined statistical analysis (such as the mean difference analysis that was used in the present study) are needed.

Research stemming from the attributional approach in social psychology has presented some complex and confusing findings. Evidence has been presented indicating that depressed individuals attribute success to exterior forces but attribute failure to internal control (Sarason & Sarason, 1980). Differences of this nature are difficult to control for when testing large groups of people as was done in the present study.

Lastly, there seems to be a conceptual discrepancy between the two constructs that has yet to be resolved. Several experts suggest that guilt is an intrinsic part of the depression constellation (Klerman et al, 1984; Rehm & O'Hara, 1979) but how can it be that internally directed guilt is positively related to an external locus of control? There seem to be no clear explanations as to why people would feel guilty about an event over which they believed they had no control (Lefcourt, 1982). Possibly, as Siegel & Griffin (1984) postulated, the depressive construct includes aspects of both external control and internal control and so guilt could be included. The occasional findings of a small positive relationship between internality and depression would support this stance, but most studies point to a negative relationship between the two. Few researchers have been capable of determining any conclusions in this matter because they have continued to utilize a bidimensonal locus of control instrument where the internal and external dimensions are not independent. Within the IPC Scales, the internal and external subscales are functionally independent allowing a respondent to score high or low on both internal and external locus of control. It has been reported that in

practice, a profile with high scores on the internal subscale and on one of the external subscales is uncommon (Levenson, 1981). The current research re-examines the above issue.

To briefly summarize, moderate positive correlations and relationships have been discovered between beliefs in an external locus of control (especially beliefs in chance factors) and aspects of depression. Such a relationship seems logical. A depressed person is likely to believe reinforcement or positive events have little to do with his or her actual behavior. On the other hand, perhaps an individual believing strongly in the power of external forces may feel helpless and become more susceptible to feelings of depression.

In some studies, internality has been found to be negatively related to depressive elements but the correlations were generally very small. Other data using more refined statistical procedures is nonexistent (for the IPC Scales) or has produced results suggesting no interaction between the two constructs. Employing procedures to examine mean differences would conceivably assist the research field to a great extent and is a feature of the present research study.

E. Self-Esteem

The construct referred to as self-esteem, like locus of control, is often confusing due to vague descriptions of the term and multiple interpretations (Demo, 1985; Jackson, 1984; Bingham, 1983; Shavelson, Hubner, & Stanton 1976). In the literature, the exact same definitional construct has been called by several different names and the same name has been used to represent different constructs.

The main confusion appears to exist between the conceptualizations of self-esteem and self-concept. These two terms are frequently employed as interchangeable terms (e.g., Chaplin, 1968) but at present the general trend in the literature seems to be following the lead of Beane & Lipka (1980) by viewing the two as separate. Self-concept is described as a pervasive global collection of perceptions that a person holds of oneself which are essentially descriptive in nature (Battle, 1980). Basically, the self-concept is self-knowledge. The term

refers to how an individual sees themself in terms of abilities, attributes and social roles. These subjective perceptions may be in regard to strengths, weaknesses, abilities and characteristics (Gottfredson, 1985). Individuals could perceive themselves as energetic students, as disorganized workers or as talented football players.

The construct of self-esteem is much more restrictive and evaluative in nature (Beane & Lipka, 1980). Almost every operational definition of self-esteem has the element of evaluation as a critical feature (Bingham, 1983) and it is this evaluative focus that differentiates self-concept from self-esteem. In its most rudimentary conception, self-esteem is a matter of the subjective perceptions held by a person regarding one's self-worth (Dean, 1985) with these perceptions being based on personal values and measured along the continuum of positive to negative or from good to bad.

Perceptions of self-concept, on the other hand, are typically measured as clear or unclear, meaning how well one knows oneself. To give an example, perceiving oneself as having little athletic ability may or may not be accurate (self-concept) but evaluations in this area can be positive, negative, or neutral. Self-concept is the perception that one has little athletic ability; self-esteem is the evaluative perception over whether having athletic ability is good or bad. Having little ability could be interpreted as meaning one has less worth as a person and thus reduce one's self-esteem.

In most cases, the self-esteem construct is believed to be multifaceted (e.g., social self-esteem, academic self-esteem) and at least partially situational specific (e.g., mathematic self-esteem, sports self-esteem) but much less encompassing than the self-concept (Bingham, 1983). In fact, numerous authorities in the field approach self-esteem as a component of the larger self-concept (Demo, 1985; Jacobson, Hauser, Powers & Noam, 1984) and consequently it can be measured as a subcomponent (Fitts, 1964). Descriptive terms frequently associated with self-esteem are self-confidence, self-respect, and the conviction that one is competent to live and that one is worthy of life.

The theoretical and terminological distinction between self-concept and self-esteem may appear to be purely academic. However, as Beane and Lipka (1980) indicate, there are practical considerations in terms of measurement and analysis. In clinical and experimental work, a professional may gather data on self-concept and incorrectly make judgments about the self-esteem of the person. Expanding on the earlier example, on a self-concept scale an individual may mark items indicating self-perceptions of one possessing little physical and athletic prowess. Such responses, however, would not assure a low opinion of self-worth unless athletic capabilities have some personal importance. It is crucial for a self-esteem scale to reveal personal opinions and values, not just descriptions. It is agreed by many that delineating between the two constructs leads to more accurate observations, predictions and measurements which are the function of constructs.

It is apparent that the construct which a test instrument is reputed to measure is important to the determination of relationships among variables. An instrument designed to measure self-concept such as the Tennessee Self-Concept Scale (Fitts, 1964) may provide only a minimal amount of information on self-esteem. The investigation conducted concentrates on self-esteem as it is the construct that is most often associated with depression. The self-esteem instrument chosen for the study (Coopersmith Self-Esteem Inventory) does focus on the self-esteem construct.

Self-Esteem and Depression

Recent research into self-esteem has mainly dealt with child participants (Vermilyea, Heimberg & Silverman, 1985) and where adults are examined, the issue most often discussed is the link between self-esteem and vocational development (Tharenou, 1986; Feather & Barber, 1983; Feather, 1982). Some investigations found a moderate to strong inverse relationship between depression and self-esteem in children (Battle, 1980; Lefkowitz & Tesiney, 1980; Moyal, 1977). Beck (1967), one of the major theorists in the area of depression suggests that low self-esteem (he refers to self-concept) is related to symptoms of

depression in a psychiatric population and he has provided clinical observations and empirical studies to support his stand. More recently, Ensel (1985), after analyzing data gathered from a community sample, revealed evidence that self-esteem scores were the third best predictor of future depressive symptoms. Even when current levels of depression are controlled for, the negative relationship between self-esteem and depressive characteristics remains (Zemore & Bretell, 1983). However, these authors did show that once active depressive symptoms diminished, the correlations between self-esteem scores and depression radically dropped.

It is clear that many investigators and experts concur with Beck and Ensel (e.g., Rehm & O'Hara, 1979; Sacco & Beck, 1975). Similar relationships have been found with depressed populations (Attman & Wittenborn, 1980; Wetzel, 1975), with unemployed populations (Feather & Barber, 1983) and with student populations (Blatt et al, 1976). Zung (1972; 1971) examined a more general group of subjects using his self-report scale of depression. Factor analysis of the data resulted in several factors, one of which was interpreted to be a self-esteem factor.

The studies by Zung highlight an important point. Some individuals working in the field of depression view low self-esteem as a symptom of depression and thus include some aspect of the construct in their measuring devices of depression. Frequently, the self-esteem construct is included as a part of the depression syndrome or construct, so it is not surprising that the two correlate strongly. The depression inventory used in this current study (BDI) possesses only one item aimed at assessing self-worth perceptions so it is scarcely possible that any relationship between BDI scores and SEI scores is a product of that one item. If a connection is found between the two constructs it is reasonable to view low self-esteem as a component of depression and not an artifact of the test.

In summation, self-esteem is a subjective-evaluative construct concerning self-worth and self-regard. In terms of empirical research, both Ensel (1985) and Zung (1972; 1971) provide evidence of a low self-esteem/high depression association in adult community groups. Unfortunately, the remaining research studies again focus on special groups, limiting the

generalization of findings. Most studies have generated consistent findings, but debates over some of the conclusions do exist (Klerman et al, 1984). This study will provide additional evidence of this relationship.

F. Identity

The most ambiguous, haphazardly and ill-defined construct examined in this study is identity (Waterman, 1982) but lack of precision aside, some features of the identity theory have become fundamental parts of psychology (Rappaport, Enrich & Wilson, 1982). As with self-esteem, this hypothetical construct has had several names attached to it. The most common term used to refer to the identity construct seems to be ego-identity.

Erikson (1968; 1980) was the original developer of the ego-identity theory and it soon became a major component of his now famous psychosocial life cycle model (Rappaport et al, 1982). Briefly, Erikson postulated that as people develop, they pass though eight phases in life and at each phase a particular crisis or conflict is encountered. These crises need to be resolved in order for a person to fully transfer to the next phase. For the study conducted, the fifth stage, "Identity versus Role Confusion", is of prime importance because it is during this stage (corresponding to adolescence) that individuals struggle to gain a sense of wholeness (identity) or end up confused and psychologically lost (role confusion). Role confusion is signified by an inability to make long term commitments and by difficulties in forming intimate personal relationships.

Erikson did not delineate a definitive description of the ego-identity construct that clearly depicts the conceptual boundaries around the term. He seemed to be of the opinion that the construct is too global in nature to be fully and adequately defined and that attempts at definitions would remove powerful features from the construct. Research has substantiated the "robustness" of the construct (Raskin, 1984).

There are several signs denoting both identity development and role confusion which are both interpsychic and social in nature. Feelings of uniqueness, self-sameness, and

meaningfulness in the world are the major subjective experiences connected with identity. However, the identity construct is much broader than mere feelings of uniqueness or what some call personal identity (Evans, 1981). Identity is an experience within the individual and within the community. A social component, then, is incorporated into the construct. This is done in two ways. Firstly, people achieving identity formation develop feelings of uniqueness and this uniqueness is recognized by the community. Hence, uniqueness should be in relation to, in connection with, and accepted by the general cultural community. Secondly, within the identity structure, feelings of belongingness in the world should occur. The development of ego-identity includes the acknowledgement of those elements or characteristics a person possesses that are in common with other people and thus develop feelings of belongingness. As Enright & Deist (1979) explain, when an individual develops a sense of identity, he or she comes to recognize how he or she is different from others and how he/she share commonalities with others. The end result is the ability to form commitments to personal relationships, occupations, religious ideologies and political ideologies (Raskin, 1984). These commitments make up the behavior manifestations of identity achievement (Rappaport et al, 1982).

A future orientation is one more aspect of identity. Commitments, as discussed earlier, lead to a future orientation by incorporating a unification of past and present elements of oneself and giving some indications of future direction (Wilkerson, Protinsky, Maxwell & Lenter, 1982). This unification aspect is referred to as self-sameness. A person gains a self-perception that integrates the individual as a child with what the individual is like as an adult and is expected to become in the future. The identity construct forms a kind of metaphysical or psycho-ego link between childhood and adulthood. Subjectively, the person feels "that was me as a child, now I am becoming an adult". It is this continuation through life, that leads to the future orientation and ultimately,to meaningfulness.

The pivotal idea of this entire discussion is that a sense of identity results in a mature, fully functioning human capable of future planning, goal setting and commitments to aspects

of the world including personal relationships. They are capable of developing feelings of uniqueness along with an individual place among members of society. Such an individual could conceivably be less susceptible to depression.

There are some arguments against the usefulness of the identity construct with most criticisms concerning the lack of definition and difficulties in measuring the construct. Erikson did base many of his formulations on clinical observations; consequently, numerous aspects of his theories are difficult to measure quantitatively. Empirical research has, however, been conducted into identity development with some success. Investigators have been able to demonstrate the ability to operationalize the ideas of Erikson and use the operational definitions for the development of quantitative measuring devices (Adams, Ryan, Hoffman, Dobson & Nielson, 1985; Stark & Traxler, 1974; Bauer & Snyder, 1972; Constantinople, 1969; Marcia, 1966; Rasmussen, 1964). These various measuring instruments and procedures have been used to separate individuals along several variables as predicted theoretically (Rothman, 1984; Wilkerson et al, 1982; Adams & Shea, 1979).

Empirical investigations into the construct of identity focus almost totally on adolescents or university students (which is understandable). One postulate by Erikson is that the most intense crisis concerning identity occurs during adolescence (Hergenhahn, 1984). Moreover, the university period is frequently considered an extended adolescence (Waterman, 1982). It has been assumed that the identity construct is of little relevance to adults. It should be pointed out that this is more of an assumption than a demonstrated fact. Some people do not achieve identity completion by the end of adolescence (Stevens, 1983). Adults in this position may have identity formation as an important issue in their lives. Furthermore, any form of personal crisis or change can return identity development to an important issue (Evans, 1981). Thus, while identity conflicts are most salient during adolescence, the construct may also have some significance for adults. This investigation involved quantitative data relevant to adults and identity formation.

Identity and Depression

In terms of empirical investigations, there have been few studies examining the possible link between identity and depression. The lack is puzzling in light of the possible associations and commonalities between the two constructs. First, as commented upon, Erikson (1963) suggests the search for identity is most intense during adolescence. As he describes, the adolescent is caught in the middle between childhood and adulthood where he or she may mourn the loss of childhood while, at the same time fear future adulthood. Other psychodynamic theorists agree on this point (Anthony, 1978). It is possible that individuals experiencing such stressors may be more susceptible to depressive feelings. Some authorities also suggest that depression is a common experience during adolescence. In fact, depressive symptoms may be the most common emotional reaction experienced during the adolescent development period. Moreover, an identity crisis in which the individual agonizes over the "Who am I" question may be accompanied by feelings or symptoms of depression. Lastly, two common indications of depression are feelings of meaninglessness and the loss of interest in the future. Both meaninglessness and future goals are essential elements organized into the identity construct. Possible links between the two constructs do exist (Dean, 1985).

Strangely enough, Rothman (1978) found identity achievement, not identity confusion to be associated with higher levels of depression in university students and the author concluded that identity achievers have made commitments and are now concerned with attaining these desired goals. How these results compare to the general community is unknown.

The current report did entail an examination of the identity-depression association within the general population. The ages of respondents vary from 18 to 76, permitting a broad comparison. However, no respondents are under the age of 18, so information relevant to younger adolescents will not be a part of the findings.

In summary, it has been shown that the identity construct has been poorly defined. The definition is based on subjective experiences and behavioral manifestations that may have

few observable connections. Some investigators have attempted to gather empirical data related to identity formation but only one study of those reviewed contains an examination of both identity development and depressive symptomatology.

G. Summary

To briefly recapitulate, despite the conceptual and constructional ambiguities involved with the variables under study, there is some evidence indicating possible relationships between them and depressive symptomatology. It has been demonstrated that increased symptoms of depression are found with individuals possessing an external locus of control. Low self-esteem levels have also been associated with a greater frequency of depressive symptoms. Little can be said about an identity-depression association because of the deficiency in empirical research. Theoretical and indirect evidence would suggest that greater amounts of depressive symptomatology are found in individuals with a low level of identity formation. However, the one study where a researcher looked at this association, yielded the opposite trend. It has become obvious that additional investigations are needed which focus upon these psychological variables in the general community. Methodological concerns have prevented clear conclusions from being made.

The investigations just reviewed utilize various measuring instruments, some which have questionable validity for the constructs being discussed. This is especially pertinent to research in the area of locus of control, self-esteem and identity. Furthermore, the researchers reviewed have surveyed populations and groups of individuals that may have little relevance to the general community. These shortfalls in methodological soundness have been compensated for or corrected in the design of the present study.

III. INSTRUMENTATION

A. Introduction

In this chapter, a review of the four instruments used in the current study is offered and determinations are made on how well they relate to the constructs and the operational definitions of the constructs as described in the previous chapter. A description of each test is given along with the reasons for using them. Reliability and validity data are presented and criticisms or limitations of the tests are discussed. The Beck Depression Inventory is introduced first, followed by the Locus of Control Scales (IPC Scales) and the Self-Esteem Inventory. Finally the Ego-Identity Scale is described.

B. Beck Depression Inventory (BDI)

The BDI was developed by Aaron Beck (1967) and consists of 21 items, each of which deals with a single symptom commonly associated with depression (Stehauwer, 1985). The following is a list of the specific symptoms measured:

1. Sadness
2. Pessimism
3. Sense of Failure
4. Dissatisfaction
5. Guilt
6. Expectation of Punishment
7. Self-Dislike
8. Self-Accusation
9. Suicidal Ideas
10. Crying
11. Irritability
12. Social Withdrawal

13. Indecisiveness
14. Body Image Change
15. Work Retardation
16. Insomnia
17. Fatigability
18. Anorexia
19. Weight Loss
20. Somatic Preoccupation
21. Loss of Libido

A brief overview of these symptoms indicates that the instrument focus is upon cognitive (e.g., Suicidal Ideas), affective (e.g., Self-Dislike), and behavioral (e.g., Crying) manifestations of depression. Physical or somatic aspects of depression (e.g., fatigability) are also examined by the BDI.

The BDI is structured in the following manner. For each item, there are four to five statements arranged in a multiple choice format. The content of each statement increases in severity and is assigned numerical values (0-3) to represent the severity or intensity involved. Respondents are requested to choose one statement from each item that best describes how they feel at the present moment and are then asked to circle the corresponding number for the chosen statement. Scoring is completed by adding all circled numbers. The higher the score, the more symptoms of depression and/or the greater the intensity of those symptoms. No clear delineation is made between the number of symptoms and the intensity of the symptoms. Both aspects of depression are combined in the total score. A set of scores have been reported for transferring qualitative scores into information on the degree of depression. A combined score of 9 or less is viewed as signifying no presence of depression (Wetzel, 1984) whereas a score of 10 or more signifies clinical depression.

Originally the BDI was designed for use with psychiatric or clinical populations (Bumberry, Oliver & McClure, 1978) but investigators have demonstrated the validity of the

scale with non-psychiatric individuals (Lips & Ng, 1986; Robbins & Tanack, 1984; Steer, McElroy & Beck, 1983; Hammen, 1980; Meites, Lovallo & Pishkin, 1980). These researchers have presented appropriate correlations between scores on the BDI and clinical judgment of depression, scores on other depression rating scales and diagnosis of depressive classifications within several non-psychiatric populations. However, some distinctions do need to be made. The BDI is viewed mainly as a measure of depressive attitude and symptoms, as well as the intensity of those symptoms (Shaw, Vallis & McCabe, 1985; Hammen & Padesky, 1977; Beck, 1967). Several researchers refer to these features as depressive mood (Fry & Grover, 1982). Any results gathered from the BDI should and will be interpreted as a representation of depression symptomatology and intensity (mood), not as a diagnosis of a depressive disorder.

The reason for the earlier discussion on the theoretics of hypothetical constructs now becomes apparent. Although many researchers employ the BDI scores as an estimate of depression, the test does not actually perform this function. The construct being examined (depression) does not exactly match the construct believed to be measured by the test used (symptoms). Therefore, caution must be exercised when making conclusions about depression based on this test. Of course, it must be admitted that the number of symptoms and intensity do have some relationship to the experience of a depressive disorder, but the nature of the relationship is in no way obvious.

The BDI was selected for use in the proposed study for a number of reasons. Firstly, the measuring device has been employed extensively in the past (Shaw et al, 1985). It is reported to have been conceived and designed independent of any one theory (Beck, 1967) and, although this claim may be challenged, the test is probably more independent of etiological and treatment theories than other methods of assessing depression. The entire BDI scale is hinged on those attitudes and symptoms identified as "depression-oriented" rather than identified causes or treatment procedures for depression. As a result, it is more likely for general symptoms to be measured rather than specific symptomatology exclusive to one theory, classification, or approach. Finally, the BDI is both simple to administer and to score.

Reliability

The reliability coefficients for the BDI have been found to be in the moderate to low range. Stability coefficients have varied from .59 to .90. This lengthy range and the high to low test-retest reliability was expected, due to fluctuations in the degree or intensity of depression and fluctuations in the number of depressive symptoms across time for any one individual. Moreover, this test does not consider or measure the duration of symptoms. As a result, it should be expected that the test would have a low or variable stability coefficient. Internal reliability for this test has also been found to be between .58 and .93 with Beck (1967) reporting split-half correlations of around .93. Tanaka-Matsumi & Kameoka (1986) have reported an alpha coefficients of .84. Moderate to low internal reliability is again expected because of the general independence between the 21 symptoms being queried.

Validity

Much validity data has been recorded for the BDI. Beck (1967) described numerous early studies where scores derived from the test correlated with clinical ratings on depth of depression (notice here it is the depth of depression) and with other self-report depression inventories. More recently, Tanaka-Matsumi & Kameoka (1986) demonstrated positive correlations between BDI scores and the Zung Self-Rating Depression Scale ($r = .68$) and the Lubin Depression Adjective Checklist ($r = .60$). In terms of predictive validity, several studies demonstrated that changes in depression were appropriately followed by changes on the BDI (Beck, 1967).

Research validating the construct underlying this measuring instrument has been collated. Beck (1967) reported evidence that scores derived from the BDI can help distinguish accurately between depressed individuals and those suffering from anxiety. Currently, however, this finding is being debated. Other researchers (Robbins & Tanack, 1984; Hammen, 1980; Bumberry et al, 1978) also found that scores from the BDI do correlate with a variety of depressive symptoms. Factor analytic investigations (Hill, Kemp-Wheeler & Jones,1986;

Beck, 1967) also appeared to result in factors consistent with the construct believed to be measured by the device. Hill et al (1986) determined that factors derived from the BDI were fairly consistent between the responses of college students and the responses of depressed patients. In both cases, the derived factors were clearly representative of some aspects of the depression construct.

Summary

To summarize, the immense collection of studies having employed the BDI as well as the consistent correlations the test has had with clinical judgments of depression, present positive evidence of the validity of the BDI as a measure of depressive symptomatology. A negative response set does not seem to be a very great problem, but the findings of correlations with anxiety and other general psychopathology (Nezu, Nezu, & Nezu, 1986) suggest that the scale may measure general psychological distress rather than depressive illness. Perhaps it is more reasonable to view the depressive construct as incorrect. That is, it may be less efficient to view depression as a distinct construct and more efficient to view it as a part of a larger general psychopathology construct. The BDI may then be assessing depressive symptoms found in general psychological problems. It is fairly certain that the BDI is an adequate measure of depressive symptomatology.

C. Levenson's IPC Scales

There are various instruments and scales in existence for gathering locus of control information (e.g., Joe, 1971) but many of them are situationally-specific since environmental differences in control beliefs is incorporated into the control concept. It has long been known that beliefs concerning the location of control over events vary depending on the situation at hand. The subject group tested in the present study was a cross-segment of the general population where a limited situationally-specific tool would have little use. What was needed was a nonspecific form examining many general situations. By far the most frequently used

instrument of a general nature is the Rotter I-E scale (Larde & Clopton, 1983; Hall, Joesting & Woods, 1977; Rotter, 1966). This device, however, is based on the controversial postulate that locus of control is a bi-dimensional construct which does not match the tridimensional operational definition being applied in the study. Consequently, the general IPC Scales were employed.

Levenson (1974; 1981) designed a tri-dimensional instrument for determining perceptions of control. The IPC Scales consist of 24 items, some of which were adapted from the Rotter I-E scale. There are three completely independent subscales within the IPC with eight items per subscale and each item is scored along a six point Likert-type system with numerical values ranging from Disagree Strongly (-3) to Agree Strongly (+3). These items state locus of control beliefs in several different situations and respondents are requested to circle the number that best represents how much they agree or disagree with each statement. Scoring is completed by counting up the numbers for each subscale, subtracting when necessary, and adding a constant of 24 to remove any possible negative integers. Three independent subscale scores are provided by this test; one measuring internality and two examining dimensions of externality.

The first subscale is entitled "Internal" (I) and measures the degree to which the participant perceives that they have personal power over life events. The majority of sampling and research has determined that the I subscale typically receives the highest score of the three. Levenson (1981) attributes the higher scores to the western cultural expectation of individual control and to the fact that some degree of beliefs in personal control are needed for basic survival and coping. It seems sensible that in everyone's life there is some relationship between behavior and outcome even if the only connection is between hunger, eating, and satiation.

The second subscale, "Powerful Others" (P), is a measure of the perceptions possessed by a person indicating the belief that events are controlled by powerful individuals or people in general rather than the person scoring the scale. "Powerful Others" is an external

dimension of control, but differs slightly from the externality formulated by Rotter because in the "Powerful Others" dimension there is the potential for personal control in an indirect fashion by influencing or controlling those who are believed to be in power. Predicting what those in power will do is a second way of achieving a sense of control when one experiences this external control orientation. Correlations between P subscores and scores on the I-E Scale by Rotter have been found to be relatively low (.22) which supports the belief that there is a difference between the two constructs (Hall et al, 1977). A difficulty has been found in relation to this subscale. As determined by Palenzuela (1984), the items of the P subscale are very similar to items on a test measuring alienation. There may then be a contamination factor in the "Powerful Others" subscale or at least some conceptual ambiguity in the sense that the scale is supposed to be measuring control beliefs not alienation.

The final subscale is the second externality dimension called "Chance" (C). It provides an estimate of the degree to which an individual feels that events or reinforcement is governed by luck or fate (random events). This dimension corresponds the closest to Rotter's description of an external locus of control. In regard to research application, one investigator suggests that the "Chance" subscale could be utilized alone as a quick and reliable measure of control beliefs (Blau, 1984).

The IPC Scales were selected for use in the current investigation because it is believed that the three subscales will be more amenable to "sifting out" subtle aspects of the depression-control relationship. The bi-dimensional approach appears to be less effective in attaining this goal. Additionally, the IPC device is a non-situationally specific measure that is shorter than most other locus of control scales and the very consistent statistical and factorial properties are valuable assets.

Reliability

The reliability estimates for the IPC Scales have been repeatedly found to be in the moderately high range. Internal consistencies have been found to be from .52 to .82 and just

as with the BDI, the moderate internal reliability is expected in light of the differential situational basis for each item. The IPC measures general locus of control as is required for this study and so contains statements related to various events and situations and includes some non-situational statements. Rotter (1975) pointed out that perceptions of control may vary according to the situation, thus, internal reliability for the IPC Scales is expected to be at a moderate level.

Validity

Since its development, the IPC device has been employed in many research studies and extensive validity data has been accumulated (Adame, 1986; Jenner, 1986; Lester, Leitner & Posner, 1985). Item analysis reveals that all items separate significantly between high and low scores and correlations with the Marlow-Crowne Social Desirability Scale were almost nonexistent (Levenson, 1974). Furthermore, the scale has been shown to have a positive correlation with the Rotter I-E scale and it is the "Chance" subscale which seems to have the strongest correlation (Linbloom & Faw, 1982; Hall et al, 1977). Subscale scores have also been employed for discriminating between a variety of populations and results have been in the expected directions (e.g., Vickers, Conway & Haight, 1983). For example, Levenson (1973) administered her instrument to psychiatric and non-psychiatric populations. While the external scores did separate the two groups adequately, the internal scores were not equally able to divide the two groups. These results support her belief that scores on internality may be independent of scores on externality.

The most consistent and favorable statistical properties for this device concern factor analytic results. Factor analysis clearly indicated the existence of three major factors in this instrument. The factors correspond to the three subscales with almost no item overlap between the three (Levenson, 1974; 1973). The factors account for about 46% of the total variance in test scores (Linbloom & Faw, 1982). Other weaker factors were found, but they contained only one or two items and added little information. Many investigators have

corroborated these findings (e.g., Lefcourt, 1982) and some have suggested that the IPC Scales have a more stable factorial structure than other locus of control measures (Blau, 1984). It was also found that the internality factor is less consistent with psychiatric populations, but the overlap between factors did remain negligible. Palenzuela (1984) suggested that the item overlap between the subscales on the three factors is much more prevalent than previously reported. This casts some doubt on the three dimensional definition of the locus of control construct. It should be mentioned that he tested a Spanish population which may account for the increased overlap. Research literature has also displayed very replicable associations between the three factors. There appears to be a slight negative correlation between the internal dimension and the external dimensions (around -.14) or no relationship at all (Hall, Noroz & Braunwald, 1975). The two external subscales, P and C, have been found to correlate positively (around +.63) in most studies (Jenner, 1986; Larde & Clopton, 1983).

There seems to be a few difficulties associated with the IPC Subscales. The moderate test-retest correlations suggest scores may not be stable over time (which is a definite disadvantage). There are also some suggestions that the reading level required for the scales may be overly high for the general population (Levenson, 1981).

Summary

The IPC Scales are a relatively new general device for gathering information regarding perceptions of control, but it has been widely used and a large amount of statistical information supports the "Internal", "Powerful Others", and "Chance" division. Some caution should be used with this measure due to the moderate stability scores and the rather complex language employed in the instrument.

D. Self-Esteem Inventory, Adult Form (SEI)

The SEI consists of three slightly different scales designed by Coopersmith for measuring the global evaluations an individual possesses and typically maintains toward him or herself (Coopersmith, 1975). In light of the evaluational focus, it seems reasonable to use this instrument for determining self-esteem level as operationalized in this study.

Coopersmith's original School Form of the SEI (Form A) was developed in 1967 and has been widely used with children, adolescents, (Jacobson, Hauser, Powers & Noam, 1984; Drummond, McIntire & Ryan, 1977) and adults (Morrison & Thomas, 1975). Most reviewers have suggested that Form A is one of the best available measures of self-esteem and the statistical properties of the device have been found to be more than adequate. Internal reliability ranges from .79 to as high as .81 and stability coefficients are reported to be somewhere between .79 and .90 (Demo, 1985). Factor analytic research seems to support the construct reported to be measured by the scale, especially the evaluation component (Kokenes, 1978). Additionally, Demo (1985) has provided excellent support for the convergent validity of the measuring device. In the study by Demo (1985), positive correlations between the SEI and various other self-esteem measures were demonstrated and SEI scores correlated with two measures gathered by research methods other than self-reports. The A Form is much too lengthy (58 items) for use in this study.

A later and shorter form of the SEI called the School Short Form (Form B) was also developed by Coopersmith. The 25 items used for Form B were taken directly from the longer version (Form A). Correlations between the longer and this shorter version were determined to be around .86-.87 suggesting Form B is a valid alternative test for Form A. Test-retest reliability coefficients for the shorter version of the SEI were around the .80 -.82 level and internal reliability scores were lower but respectable (around .70 to .72). Data regarding the validity of this scale has been reported. Andersen & Williams (1985) completed a study using Form B and found that this scale correlated well with a second self-esteem measure. Tuinen & Ramanaish (1979) also presented strong evidence regarding discriminate and convergent

validity for the SEI (Form B). In light of the above information, several researchers came to the conclusion that Form B provides a stable and quick measure of global self-esteem (e.g., Tuinen & Ramanaish, 1979; Bedeian & Zmud, 1977).

A third version of the SEI, referred to as the Adult Form, was employed in the current study since general self-esteem levels and depressive symptomatology were being compared in a adult community. Coopersmith did adapt this version of the SEI for use with individuals age 16 years and up. At the beginning and in the remainder of this report SEI refers solely to this Adult scale.

The SEI consists of all 25 statements in the Short School Form with items modified in order to contain language appropriate to adults. Out of the 25 items only eight had to be modified; the remaining 17 were not changed in any way. Items are short first-person statements describing a variety of behaviors and personality characteristics. Five psychologists identified the items denoting high and low self-esteem. Participants respond on the scale by judging whether the statements are like them or not like them and then checking the appropriate column. This instrument has been designed for individuals age 15 or over who possess a grade eight reading ability. Scoring is completed by adding up all responses signifying high self-esteem and multiplying the constant by four.

Various aspects of this inventory suggest its usefulness for the present study. First, the evaluational focus of the test is consistent with the operational definition currently in use. Additionally, the adult oriented language is more appropriate for the population being examined and the self-esteem inventories as a group appear well constructed, well researched, and widely used (Adair, 1984). It is also important to notice that the SEI measures global perceptions, and (as was explained with the IPC Scales), the study being implemented deals with a variety of individuals so a general scale is required. The SEI fits this requirement. Lastly, the inventory is short, exceptionally easy to read, simple to complete, and even easier to score. Even the length of each item was remarkably short. In light of the large number of tests participants were asked to fill out and considering the fact that they must complete the

form while in shopping malls, the brevity of the SEI is a definite asset.

Reliability & Validity

Few changes were made to the Adult version of the SEI and correlations between Form B and the Adult scale are reported to be .80 or higher (Coopersmith, 1975). Consequently, the Adult scale can be viewed as an alternative test for the School Short Form and the validity network referred to for the other forms applies here.

Summary

Although the SEI is two developmental steps removed from the original 1967 test, its orientation towards adults and other factors make it a valuable test to use in the present study. The statistical data that has been presented is generally positive and few drastic changes have been made to the scale during the revisions. Consequently, the SEI appears to be a good short scale for measuring the global self-esteem level of an individual.

E. Ego Identity Scale (EIS)

The EIS, developed by Rasmussen (1964), consists of items derived directly from the theories and the writings of Erikson. The scale represents the multidimensional aspects of the identity construct (Bauer & Snyder, 1972) by emphasizing numerous variables including uniqueness, the unification of past and present, and one's place within society. The original instrument contained 72 items consisting of statements regarding identity and participants were asked to respond by checking off the "agree" or "disagree" column for each of the statements. For scoring, the number of responses indicating identity achievement are summed.

The EIS has been described as a rather experimental measure of ego identity (Rassmussen, 1964). It was selected for this study because of the emphasis upon internal psychological aspects of identity achievement (e.g., feelings of uniqueness) rather than upon superficial aspects of the constructs such as political, religious, and occupational

commitments. Other identity tests focus upon these later constructs too exclusively (e.g., Adams, Shea, & Fitch, 1979). The items of the EIS also make more abstract and less specific statements, which is critical since in this study respondents were adults not adolescents. Items having more specific contents or specific forms of commitments may not be relevant to adults and as a result measure identity in adults poorly. Statements that are abstract in nature and deal with perceptions of uniqueness, individualization, and relationships with society are appropriate at any age and provide a more precise measure of ego identity development in adults.

Reliability & Validity

Rasmussen (1964) has presented internal correlation coefficients of around .85. Furthermore, considering the close relationship between item content and the theories of Erikson, it is claimed that the EIS possesses a great deal of content validity. These items were agreed upon by two independent judges. Discriminative validity has been found for the scale in several investigations where modified or shortened versions of the scale and the scale in its entirety have been used. Scores from the test were shown to be useful in distinguishing between specific populations as theorized by Erikson (Wilkerson et al, 1982; Bourne, 1978a; Bauer & Snyder, 1972; Rasmussen, 1964). Additionally, Rothman (1978) provides some evidence of convergent validity for the entire scale.

For purposes of the present investigation the original EIS was overly lengthy. Therefore, twenty items were selected by two judges from the original scale to be incorporated into a modified shorter device based on the ability of the items to represent uniqueness, independence, and an individual's relationship with society. Other researchers have made similar modifications to the EIS (e.g., Baur & Snyder, 1972).

F. Summary

The four measuring devices that are employed in the research project have been described and the available statistical data presented. The relevance of the instruments to the constructs under study has been discussed and the reviewed studies present information suggesting that the tests employed are valid means of measuring the psychological constructs

IV. HYPOTHESIS AND METHODOLOGY

A. Introduction

To coherently study the constructs being discussed, explicit hypotheses need to be stated and the methods and procedures employed in the study should be clearly described. These issues are dealt with in the present chapter.

B. Hypotheses

Four general hypotheses are addressed in this investigation.

Depressive Symptoms & Locus of Control

Hypothesis 1: With regard to the internal subscale of the IPC, since internality has been found to be independent of depression, no difference in depressive scores should be found between those people scoring high and those scoring low on internality.

Hypothesis 2: Based on the past research literature, it is hypothesized that more depressive symptoms will be reported by those individuals perceiving an external locus of control. Respondents scoring highest on the "Chance" and "Powerful Others" subscales of the IPC should achieve a higher depressive symptom score than those scoring lower on these subscales.

Depressive Symptoms & Self-Esteem

Hypothesis 3: The third hypothesis concerns self-esteem. It is predicted that there will be more symptoms of depression reported by those persons scoring low in terms of self-esteem than those individuals scoring higher.

Depressive Symptoms & Identity

Hypothesis 4: Hypotheses put forward in regards to possible association between depression and identity are much more speculative then the others. However, it is suggested that individuals reporting lower levels of identity formation will also report higher levels of depressive symptoms.

C. Research Methods and Procedures

To subject the above four hypotheses to testing conditions the following procedures were used. Provided hereafter are the details on subject selection, data collection, and methods for data analysis.

Subject Selection

Subjects were gathered from the community of Edmonton and surrounding areas and the vast majority of potential subjects were approached individually by the experimenter at various shopping malls in this area. Participants reported information on the following demographic variables which allows them to be placed into several categories:

Age:

1. 18-28
2. 29-39
3. 40-50
4. 51-61
5. 62-up

Sex:

1. Male
2. Female

Marital Status:

1. Married
2. Divorced
3. Single
4. Other

Education level:

1. Grade School
2. High School
3. College
4. University
5. Other

Individuals were also requested to report their current job or profession and those people not working were asked to record the occupation most relevant to their lives. Individuals presently unemployed were asked to list their last job. People who have not worked full-time and who were presently living at home listed the occupation of their father. Similarly, homemakers listed their husband's occupation. In all cases, occupation was viewed as a representation of socioeconomic status, and a four digit index number was assigned based on the occupation listed. These index numbers were employed for all statistical analysis. Blishen & Mc Roberts (1976) designed the socioeconomic index for occupations in Canada.

Data Collection

Subjects were enlisted by approaching them at shopping malls. They were asked by the investigator to fill out forms dealing with the beliefs and attitudes of people in Alberta and upon agreement they received the test booklet. The first page contained the section for reporting information concerning demographic variables. On the bottom of the first page subjects were also given the opportunity to add their name and address if they wished their

results and the final results of the study sent back, otherwise, name and address were not required. At the completion of the first page, subjects then filled out the three scales; BDI, SEI, and the EIS in that order. Most participants completed the test booklet at the time they were approached and when finished received a short one page debriefing explaining the nature, goals, and the hypotheses of the investigation. A very small minority of the subjects held on to their test forms and returned them to the experimenter at a later date. The tests required about 15 to 45 minutes to complete.

Data Analysis

Data was examined using three populations. The total group was looked at first and then all procedures were repeated for the two large Age Clusters that were organized. Age Cluster 1 consists of all individuals ages 18 to 28 and Age Cluster 2 contained all subjects who reported an age of 29 or older. Each of the three populations gathered (Total Population, Age Cluster 1, and Age Cluster 2) were further broken down into a high scoring group and a low scoring group based on the scores received on the tests employed in the study. Subjects scoring above the median on each of the scales were placed in the high scoring groups and those scoring below the median were placed in the low scoring groups. Those individuals falling exactly on the median score were excluded from the analysis.

The three variables (locus of control, self-esteem, and identity) were examined individually. With the IPC Scales, each of the subscales were also dealt with separately. Therefore, at any one time there were only six groups examined: a high and low scoring group for each of the three populations. Mean depressive scores achieved on the BDI were computed for each of the high and low groups and then compared utilizing a students t test in order to locate group differences in reported depressive symptoms. As an example, subjects scoring above the median on the Internal subscale were compared to those subjects scoring below median on this subscale. The same procedure was used for all scales.

Other statistical procedures were employed. Pearson correlations involving all continuous variables were computed in order to provide data on general trends that might influence the relationship between the three variables (locus of control, self-esteem & identity) and depressive symptoms. In addition, analysis of variance procedures were employed to analyze the association between demographic variables and depressive scores. In all analyses, the significant criterion level was set at .05.

V. FINDINGS & CONCLUSIONS

A. Introduction

To aid readers in fully understanding the findings gathered from the current investigation, this chapter begins with a detailed description of the total population of individuals who completed the tests. Following this is a description of each of the two age clusters. A reintroduction of the hypotheses examined is then presented along with the statistical methods employed to analyze those hypotheses. Thirdly, actual findings are described and the conclusions supported by these results are stated. Lastly, any adjunctive findings of the study deemed important are presented thereafter and included are some analysis concerning the relationship that the demographic variables had with depressive symptoms.

B. Populations of Participants

As described in an earlier chapter, subjects in this study were initially examined as a whole (Total Population). They were then divided into two age clusters. The end result was the development of three major population groups.

Total Population

One hundred and sixty-two individuals agreed to participate. Surveying the demographic information concerning all subjects (TABLE V-1) clearly showed that the sample gathered did represent the general community. Participants had a wide range of occupations, marital statuses, education levels, and socioeconomic statuses. Furthermore, there were almost equal amounts of male and female participants with ages ranging from 18 to 62 and above.

Table V-1: Distribution of Total Population

Variable	Sample Number	%	Mean Score	Standard Deviation
AGE:				
18-19	85	53%		
29-39	25	15%		
40-50	23	14%		
51-61	18	11%		
62-Up	11	7%		
GENDER:				
Females	83	51%		
Males	79	49%		
MARITAL STATUS:				
Married	58	36%		
Divorced	19	12%		
Single	75	46%		
Other	10	6%		
EDUCATION LEVEL:				
Grade School	11	7%		
High School	74	46%		
College	27	17%		
University	49	30%		
Socioeconomic Status:			47.4	13.7
Depressive Symptoms:			6.3	7.0
Internal Locus of Control:			34.9	8.0
Powerful Others Locus of Control:			17.6	9.7
Chance Locus of Control:			19.1	9.8
Self-Esteem:			71.8	22.2
Identity Formation:			15.2	3.6

Some difficulties were encountered in regard to age. About 53% of the sample fell within the 18 to 28 age group suggesting that this age group is over represented in the current investigation and that the other age groups are under represented. Each of the four other age groups contain about 7 to 15 percent of the total sample.

About 36% of the participants reported being married while 46% indicated they where single. The "Divorced" category contained about 12% of the sample. The marital status referred to as "Other" (6% of the total sample) is difficult to describe, but discussions with participants clarified that this category consists mainly of those individuals currently co-habitating but not married and several individuals who were widows or widowers.

TABLE V-1 also lists the means and standard deviations for the each of the scales and the mean socioeconomic status level. For this Total Population the mean depressive symptom score was 6.3 which is below the clinical depressive level.

With regard to the Locus of Control test, mean scores on each of the three subscales were as expected. The mean score derived from the Internal subscale ($\bar{x} = 34.9$) was higher than both external scores as found in other studies. Mean scores on the "Powerful Others" ($\bar{x} = 17.6$) and "Chance" subscales ($\bar{x} = 19.1$) were much lower and similar in level. Past studies have shown that North Americans are more internally oriented and it has been suggested that beliefs in personal control over life events is a part of the societal belief systems in western countries.

Considering that the highest possible score on the SEI is 100, the self-esteem scores reported by the Total Population were fairly high ($\bar{x} = 71.8$). This seems to suggest that the subjects generally possess positive feelings towards themselves. The mean score derived from the Identity measure was also quite high ($\bar{x} = 15.2$) suggesting a high level of identity formation which would be expected because subjects were adults not adolescents.

Age Cluster 1 (18-29)

A more refined analysis of the general population based on age was required for this study and data concerning Age Cluster 1 can be found in TABLE V-2. Age Cluster 1 was composed of 85 individuals and reviewing the figures in TABLE V-2 confirms that this cluster represents a fairly wide sample of the genenal community.

Table V-2. Distribution of Age Cluster 1 (18-28)

Variable	Sample Number	%	Mean Score	Standard Deviation
GENDER:				
Females	47	55%		
Males	38	45%		
MARITAL STATUS:				
Married	18	21%		
Divorced	3	4%		
Single	60	70%		
Other	4	5%		
EDUCATION LEVEL:				
Grade School	3	4%		
High School	36	42%		
College	15	18%		
University	31	36%		
Socioeconomic Status:			45.0	14.2
Depressive Symptoms:			7.1	8.5
Internal Locus of Control:			35.4	7.6
Powerful Others Locus of Control:			16.2	9.3
Chance Locus of Control:			19.5	9.6
Self-Esteem:			72.0	24.5
Identity Formation:			15.1	4.0

The actual number of persons within the various demographic classifications varies from the Total Population.

While the relative distribution of males and females remained almost equal and the relative distribution within the Education levels remained consistent with the Total Population the number in each marital status category changed drastically. With this younger age group the "Single" category consisted of a full 70% of the population. The percentage of married individuals dropped from 36% for the entire sample to 21% for Age Cluster 1. The other two groupings ("Divorced" and "Other") contained very few people. After talking with them, it was determined that for these younger people, the "Other" category mainly represents those currently not married but who are co-habitating. It seems reasonable that since couples may be getting married later in life (Melville, 1983), this younger age cluster would have more single individuals and less individuals who are either married or divorced.

The scores derived from the four scales also remained consistent with those found with the Total population. Several mean scores dropped or raised a few points but there were no drastic changes. For example, the mean self-esteem score for the Total Population was 71 and the same score for Age Cluster 1 was 72 (See Tables V-1 & V-2).

Age Cluster 2 (29 & Up)

Cluster 2 consists of 77 individuals and information concerning this age group is presented in TABLE V-3. The percentage of people who fit into each of the categories varied from the Total Population and from Age Cluster 1 for some classifications.

The percentage of males and females in this older cluster is similar to the Total Population and Age Cluster 1 but with Cluster 2 there were slightly more females than males. In the other two populations males outnumber the females but the differences were small.

Table V-3. Distribution of Age Cluster 2 (29-Up)

Variable	Sample Number	%	Mean Score	Standard Deviation
GENDER:				
Females	36	47%		
Males	41	53%		
MARITAL STATUS:				
Married	40	52%		
Divorced	16	21%		
Single	15	19%		
Other	6	8%		
EDUCATION LEVEL:				
Grade School	8	10%		
High School	38	50%		
College	12	16%		
University	18	24%		
Socioeconomic Status:			47.8	13.3
Depressive Symptoms:			5.3	4.6
Internal Locus of Control:			34.6	8.1
Powerful Others Locus of Control:			20.2	12.7
Chance Locus of Control:			19.7	12.9
Self-Esteem:			71.5	19.6
Identity Formation:			15.3	3.1

More importantly, the distribution within the Marital classification was largely different for this older cluster. In Cluster 2, 52% of the sample were married, whereas only 36% of the Total Population were married and only 21% of Cluster 1 reported being married. The number of Divorced and single persons in the older group was about equal (19% and 21% respectively). There appears to be more divorced individuals in Age Cluster 2 but less single people. The "Other" marital status was reported by only a few individuals. Discussions with these people indicated that this category consists of widows and widowers with some co-habitating.

The relative percentage in each of the Education categories also changed with this older group. There was a higher representation of individuals having a grade school education (10%). Conversely, individuals having a university education dropped form 30% for the Total Population, and 36% of for Age Cluster 1, to 24% for this older group.

There is little difference between Cluster 2 and the other two populations on mean scores except with the depressive symptom scale and the "Powerful Others" subscale. The mean depressive score achieved by the older group ($x = 5.3$) was slightly lower than that achieved by both of the other two populations. Moreover, the standard deviations indicates that, for the older subjects, the variation in depression scores was less than was found for the other two populations. This suggests that older individuals may experience fewer features of depression than the younger ages. The correlation between age and depressive symptoms (See TABLE V-5) was low but negative ($r = -.14$) which further supports the suggestion that, with this sample, depressive symptoms decrease with age.

Further examination of the mean scores on TABLE V-3 suggests that the older group of subjects held stronger beliefs that other people in general where in control of events in their lives. The mean score for Cluster 2 on the Powerful Others subscale was 20.2 whereas for the Total Population the score was 17.6 and for Age Cluster 1 the score was 16.2. All other scores for each of the three populations were generally similar (See Tables V-1, V-2, & V-3).

Summary

It would seem that there are two major differences in population compositions of Cluster 1 & 2. Firstly, there are more single individuals in the younger ages but more married and divorced individuals in the older ages. Secondly, the younger age cluster appears to contain individuals possessing a higher education level than the older cluster. These dissimilarities may be explained by cohort effects. The public may be marrying at a later age (Melville, 1983) and getting divorced at a later age. Younger groups of people in society may also be receiving greater amounts of education than was received by older individuals (Graham & Lilly, 1984).

There were also two major dissimilarities between the two Age Clusters on test scores. The older subjects appear to have lower scores in depressive symptoms but higher scores on the Powerful Others subscale.

C. Review of Hypotheses

Four Hypotheses were focused upon in this study.

Depressive Symptoms & Locus of Control

Hypothesis 1: No greater or lesser amount and/or intensity of depressive symptoms will be reported by those subjects identified as possessing a weak internal locus of control than by individuals possessing a strong internal locus of control. It is expected that internality will be independent of depressive symptoms.

Hypothesis 2: A greater amount and/or intensity of depressive features will be reported by those subjects identified as possessing a strong external locus of control than by those possessing a weak external locus of control.

Depressive Symptoms & Self-Esteem

Hypothesis .3: It is predicted that individuals reporting a low level of self-esteem will report greater amounts and/or intensity of depressive characteristics than those reporting high levels of self-esteem.

Depressive Symptoms & Identity Formation

Hypothesis .4: It is predicted that individuals experiencing low levels of identity formation will also report higher levels of depressive symptoms than individuals experiencing high levels of identity formation.

D. Statistical Analysis

To analyze the above four hypothesis, all subjects were first allocated into two large age clusters. Cluster 1 consisted of subjects age 18 to 28 while Cluster 2 was composed of ages 29 and higher.

The two age clusters were further divided into both high and low scoring groups based on each of the three control subscales (Internal, Powerful Others, Chance) and based on the self-esteem and identity scales. Individuals scoring above the median mark on each of the scales were placed in the High group. Subjects scoring below the median were placed in the Low group. It is important to note that the entire group of subjects were recombined into the two original age clusters before further division into the high and low scorers on the next subscale. Consequently, at any one time there were only six comparison groups:

1. Total Population:
   a. High Scoring Group
   b. Low Scoring Group

2. Age Cluster 1:
   a. High Scoring Group
   b. Low Scoring Group

3. Age Cluster 2:

a. High Scoring Group
b. Low Scoring Group

Measures:

1. Internal Locus of Control
2. Powerful Others Locus of Control
3. Chance Locus of Control
4. Self-Esteem
5. Identity

A 2 x 2 design was utilized to determine if differences in reported depressive symptoms exist between the High and Low groups for each of the three populations. The level of significance was placed at .05.

Correlational matrixes were also assembled in order to determine if any other relationships exist and involve the psychological constructs being examined or the tests being employed. Analysis of variance was employed to determine if differences exist between demographic categories in terms of reported depressive symptoms. These results are discussed under the Adjunctive Findings section.

E. Results

Total Population

The end results of comparing the High and Low scoring groups on the measure of depressive symptoms for the total population is presented in TABLE V-4. High scoring groups on all measures achieved different depressive scores than low scoring groups. It would seem that individuals scoring low on the internal subscales and scoring low on the measures of self-esteem and identity formation experience more characteristics of depression than those people scoring high on these tests. Furthermore, individuals scoring high on the two external subscales of Powerful Others and Chance seem to experience more depressive symptoms than those scoring low.

Table V-4. Student t-test Comparing High and Low Internal, Powerful Others, Chance, Self-Esteem and Identity Groups on Depressive Scores for the Total Population

Variable	N	Mean	Standard Deviation	T Value
INTERNAL:				
High Group	75	4.4	4.8	
Low Group	75	8.5	8.5	3.63#
POWERFUL OTHERS:				
High Group	75	8.4	8.8	
Low Group	79	4.2	4.1	-3.74#
CHANCE:				
High Group	79	7.9	8.7	
Low Group	71	4.4	4.1	-3.24**
SELF-ESTEEM:				
High Group	78	3.3	3.2	
Low Group	73	9.7	8.6	5.92#
IDENTITY:				
High Group	74	3.0	3.0	
Low Group	70	10.1	8.6	6.45#

** = p<.01
# = p<.001

Looking at TABLE V-4 it can be seen that the mean scores achieved by groups reporting the greater degrees of depressive symptomatology approached the clinical level (score of 10), but only the low identity group reached this level.

The above findings support most of the hypotheses put forward. A greater number of symptoms or a greater intensity of symptoms were associated with strong beliefs in external control and with low levels of self-esteem and identity formation. A decrease in depressive symptomatology was associated with weak beliefs in the power of external factors to influence life events and with high levels of self-esteem and identity formation. However, the hypothesis concerning internal locus of control was not supported. Contrary to past research, a strong belief that one is in control of life events was related to a reduction in the reporting of depressive features. With weak beliefs in internal control depression features increased.

The correlations reported in TABLE V-5 provide further support. The correlations involving the locus of control and depression measures were relatively weak (.28 to -.34). It was shown, however, that as internality scores decreased, depressive scores increased. On the opposite subscales, as externality increased depressive scores increased. Correlations involving self-esteem and identity with depressive symptoms were much stronger (-.63 & -.67 respectively) and again in the expected directions. As self-esteem and identity scores increased, depressive scores decreased. Viewing the same data for the two Age Clusters provides some contrasting information.

Table V-5. Pearson Correlations with Total Population (N = 162)

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. AGE								
2. SEI	.16*'							
3. BDI	-.14*	-.10'						
4. INTERNAL	-.04	.11'	-.34#					
5. POWERFUL OTHERS	.17*	.05'	.29#	-25*				
6. CHANCE	.40	-.09'	.28#	-.26#	.77#			
7. SEI	.02	.05'	-.63#	.32#	-.31#	-.27**		
8. EIS	.06	.16*'	-.67#	.35#	-.33#	-.34#	.75#	

* = p<.05 ' = N of 141
# = p<.001

Age Cluster 1 & Age Cluster 2

Analysis of High and Low groups on depressive scores for both age clusters is presented in TABLE V-6 and TABLE V-7. Examining internal locus of control first, results from Age Cluster 1 were found to be similar to the Total Population but results from Age Cluster 2 were much different. With Age Cluster 1, subjects in the Low Internal scoring group reported a greater degree of depressive symptoms then the High Internal group. The low internal group of Age Cluster 1 also achieve a mean depressive score in the clinical range ($x = 10.8$) which was not found with the Total Population. With the older Age Cluster, no difference was found between the Low and High Internal group on the depressive measure. As can be seen in TABLE V-6 and contrary to the hypothesis stated, weak beliefs in the influence of personal factors and actions on life events were associated with more depressive symptoms. This relationship was found only for individuals age 18 to 29. Thus, some support for the hypothesis regarding internal control was found, since internal locus of control was found to be unrelated to depressive scores in Age Cluster 2.

The group scoring high on the Powerful Others subscale (within the 18 to 29 Age Cluster) also achieved a greater mean depressive score than the group reporting minimal beliefs in the control by other people over life events. Again, the mean score for this High Powerful Others group was in the clinical Range ($X = 10.6$). Examining the older Age Cluster showed that the difference in depressive scores between the High Powerful Others group and the Low Powerful Others group approached, but did not reach, significance (See Table V-7). While there seems to be a difference between the High and Low Powerful Others groups with younger ages, there is no similar contrast with the older age cluster.

Table V-6. Student t-test Comparing High and Low Internal, Powerful Others, Chance, Self-Esteem and Identity Groups on Depressive Scores for Age Cluster 1 (18-28)

Variable	N	Mean	Standard Deviation	T Value
INTERNAL:				
High Group	41	4.0	5.0	
Low Group	40	10.8	10.2	3.79**
POWERFUL OTHERS:				
High Group	42	10.6	10.3	
Low Group	38	3.6	4.0	-4.10**
CHANCE:				
High Group	44	10.0	10.4	
Low Group	41	4.0	4.3	-3.54**
SELF-ESTEEM:				
High Group	45	3.4	3.2	
Low Group	33	12.9	10.9	4.90#
IDENTITY:				
High Group	39	2.8	2.9	
Low Group	36	12.4	10.6	5.23#

** = p<.01
# = p<.001

Table V-7. Student t-test Comparing High and Low Internal, Powerful Others, Chance, Self-Esteem and Identity Groups on Depressive Scores for Age Cluster 2 (29-Up)

Variable	N	Mean	Standard Deviation	T Value
INTERNAL:				
High Group	34	4.8	4.6	
Low Group	44	5.8	4.9	0.85
POWERFUL OTHERS:				
High Group	36	6.5	5.7	
Low Group	34	4.3	3.3	-1.92
CHANCE:				
High Group	35	5.2	4.8	
Low Group	37	5.1	4.4	-0.03
SELF-ESTEEM:				
High Group	33	3.3	3.2	
Low Group	40	7.0	5.0	3.85#
IDENTITY:				
High Group	35	3.3	3.2	
Low Group	34	7.7	5.0	4.30#

[# = p<.001]

A review of the outcomes with Age Cluster 1 also shows that the group expressing a greater degree of beliefs in the control of chance factors over life events (High Chance) had a greater mean depression score than was received by the group expressing minimal beliefs in the power of chance factors. In fact, the mean depression score of this High Chance group is in the clinical range as denoted by Beck (1969). However, for the second age cluster (ages 29 & up) there were no differences between the mean depression score received by the High and Low Chance groups.

The findings regarding external control suggest that individuals age 18 to 28 and who experience an external locus of control do report characteristics of depression in greater numbers or of more intensity than those not experiencing an external orientation. Individuals described an internal orientation also reported less depressive features. On the other hand, people age 29 or older who express an external orientation do not report greater

symptomatology of depression. Additionally, with this older group, no variation in depression scores were found between those reporting a strong and those reporting a week internal sense of control. Therefore, support is found for hypotheses 2 and 3 (but only for the younger ages) and support for hypothesis 1 is found (but only with the older ages).

Reviewing the results in Table V-6 and V-7 shows similar findings for both of the Age Clusters with regard to self-esteem and identity scores. Individuals in both clusters who reported low self-esteem demonstrated higher depressive scores than subjects reporting a high self-esteem. Consequently, strong support for Hypothesis 3 has been found. It is interesting that it was only the Low Self-Esteem group of the youngest age cluster that had a mean depression score at a clinically depressed level. All other mean scores were outside the clinical range.

With identity scores, again, no age difference as seen with the locus of control measure, was found. The Low Identity group for each age aggregate reported a greater degree of depressive symptoms than each of the High Identity groups. These results provide some tentative support for hypothesis 4. Only the Low Identity group of the youngest subjects had a mean depressive score that was at a clinical level.

Further evidence of the above trends is found by looking at the correlations provided in TABLES V-8 and V-9. Age Cluster 1 received moderate to strong correlations between test scores and depressive scores (.51 to -.73) suggesting that increased scores on the external subscales were associated with an increase in the reporting of depressive symptoms. Lower scores on internality, self-esteem and identity were associated with an increase in depressive symptoms.

Age Cluster 2 received quite different correlations between locus of control and depressive measures. Between these variables no correlations were found, but moderate to strong correlations were found between self-esteem and depressive features and identity and depressive features (-.60 and -.58 respectively).

TABLE V-8. Pearson Correlations with Age Cluster 1 (18-28) (N = 85)

Variable	1.	2.	3.	4.	5.	6.
1. SES						
2. BDI	-.09'					
3. INTERNAL	-.15'	.51#				
4. POWERFUL OTHERS	.00'	.60#	-.44#			
5. CHANCE	-.16'	.57#	-.42#	.64#		
6. SEI	.01'	-.66#	.52#	-.58#	-.51#	
7. EIS	.10'	-.73*	.56#	-.61#	-.64#	.74#

' = N of 74
* = p<.05
# = p≤.001

Table V-9. Pearson Correlations with Age Cluster 2 (29-Up) (N = 77)

Variable	1.	2.	3.	4.	5.	6.
1. SES						
2. BDI	-.09'					
3. INTERNAL	.08'	-.16				
4. POWERFUL OTHERS	.08'	-.00	-.09			
5. CHANCE	-.04'	-.07	-.13	.86#		
6. SEI	.12'	-.60#	.07	-.07	-.07#	
7. EIS	.25*'	-.58*	.08	-.10	-.06#	.76#

' = N of 67
* = p<.05
# = p≤.001

F. Conclusions

The foregoing findings do provide much support for several of the hypotheses tested. Nevertheless, some refinements seem necessary especially with the locus of control construct and the age contrast.

Firstly, it seems that locus of control measures are associated with depressive symptoms but apparently only with younger subjects. A strong belief in external controls over life events (both Chance and Powerful Others) corresponded to a greater frequency of depressive characteristics. In addition, weak beliefs in internal control also corresponded to the greater frequency of depressive characteristics. Importantly, all three groups (1. High Chance, 2. High Powerful Others, and 3. Low Internal) with subjects in the 18 to 29 age level, achieved mean depressive scores at a clinically depressed level, suggesting that many of the individuals in these groups would be diagnosed as clinically depressed based on scores from the Beck Depression Inventory.

This locus of control-depression connection was not found with the older age cluster. The control construct appears to be age-dependent in its relationship to depressive symptoms.

In contrast, the self-esteem and identity constructs seem age-independent in their relationship with depression symptomatology. With both age clusters, lower levels of self-esteem and identity formation were associated with higher levels of depressive symptoms. However, it is still reasonable to view an age interaction. It was only with the Low Self-esteem group and the Low Identity group of the younger age cluster, where depressive scores may have signified clinical depression.

G. Adjunctive Findings

A variety of further findings seem important and are reported below. Earlier, some time was spent reviewing the relationship between depression, depressive symptoms and an assorted collection of demographic variables. The two Age Clusters have been shown to differ (See TABLES V-1, V-2, & V-3) along several population variables and the relationship

between locus of control and depressive symptoms varies between the two age clusters. It, therefore, seems important to examine the association between demographics and depressive scores. All three populations are discussed. Later, adjunctive findings concerning the instruments employed are presented.

Demographic Variables and Depressive Symptoms

It was reported earlier that age was found to be only marginally related to depressive features when the entire respondent population was examined (See TABLE V-5). Depression scores appear to increase as age decreases suggesting that depressive symptoms are more frequent in younger ages.

Tables V-10, V-11 & V-12 contain the mean depressive scores for each demographic classification within the three populations examined. With the Total Population, individuals age 18 to 28 (Age Cluster 1) reported larger depressive scores than the 29 and up group as reported earlier. Mean depressive scores for males and females were essentially the same which was not expected. Past findings suggested that females were more likely to report greater amounts of depressive symptoms. It may be possible that the gender contrast is so marginal, it appears only in studies gathering very large subject samples or only with clinically depressed populations. A few studies have suggested that the gender contrast tends not to show up within community samples. Perhaps in the general population females do not report more depressive features.

Table V-10. Demographic Variables & Depressive Symptoms (Total Population)

Variable	Sample Number	Mean Depression	Standard Deviation
AGE:			
18-28	85	7.14	8.55
29-Up	77	5.30	4.61
GENDER:			
Females	83	6.52	7.53
Males	79	6.00	6.44
MARITAL STATUS:			
Married	58	5.81	6.46
Divorced	19	8.79	9.53
Single	75	6.27	6.97
Other	10	4.10	3.45
EDUCATION LEVEL:			
Grade School	11	7.45	6.23
High School	74	7.32	7.98
College	27	4.04	3.17
University	49	5.65	6.98

In the Total Population sample, divorced individuals received the largest mean score ($x = 8.79$) followed by singles and then the married group. People falling into the "Other" category reported the lowest levels of depressive symptoms. This finding supports the suggestion, put forward during the review the current literature, that divorced individuals may possess the highest depressive level. For Education levels, reported depressive symptoms decreased with increase education but it was the college educated subjects who received the lowest depressive score.

Age Cluster 1

Looking at Age Cluster 1 (TABLE V-11), males and females received similar depressive scores, although the mean score for female subjects was slightly larger. The major distinctions for the young ages appears in the marital and educational categories.

Divorced individuals reported the highest depressive levels, however, the number of subjects in this marital classification was very small (N=3). Married individuals had the second highest depressive level and their mean score just reached the level signifying clinical depression. The mean level of depressive symptoms for the "Single" and "Other" groups was nearly equal and these two groups had the lowest depressive scores for this Age Cluster. The descending order on depressive scores changed from Divorced-Single-Married-Other (with the Total Population) to Divorced-Married-Single-Other (with Age Cluster 1). In this younger age cluster, the "Married" and "Single" categories switch their relative positions.

Table V-11. Demographic Variables & Depressive Symptoms (Age Cluster 1; 18-19)

Variable	Sample Number	Mean Depression	Standard Deviation
GENDER:			
Females	47	7.51	9.22
Males	38	6.68	7.73
MARITAL STATUS:			
Married	18	9.83	9.34
Divorced	3	20.00	19.92
Single	60	5.85	7.20
Other	4	4.75	4.11
EDUCATION LEVEL:			
Grade School	3	14.33	8.08
High School	36	8.86	10.24
College	15	4.47	3.58
University	31	5.74	7.59

In terms of education, the same trends found with the Total Population are found with Age Cluster 1. Mean depressive scores decreased as education levels increased and once again the "College" group had the lowest symptom scores. Perhaps college educated individuals perceive their future more positively than others less educated but are also free from some of the more intense pressures to achieve experienced by those who are university educated.

Age Cluster 2

The older population provided an interesting contrast with the other two populations (See Table V-12). While male and female group scores were similar, other groups have differing distributions.

The marital trends in Age Cluster 2 are very interesting. The relative mean order on depressive scores has changed once more and now it is the "Single" group which achieved the highest mean depressive score. Divorced individuals came second followed by the "Married" and "Other" groups. Analysis shown in TABLE V-13 indicates that the difference between the "Single" and the "Married" groups was significant. Consequently, it appears that for older people, individuals who are single report a greater number of depressive features or greater intensity of these symptoms than married individuals.

Finally, with education level the linear trends shown with the Total population and with Age Cluster 1 are no longer apparent. With the older group, the high school educated and the university educated groups received the highest depressive scores. The "Grade School" group fell in the middle and once more the "College" group received the lowest mean depressive score.

Table V-12. Demographic Variables & Depressive Symptoms (Age Cluster 2; 29-Up)

Variable	Sample Number	Mean Depression	Standard Deviation
GENDER:			
Females	36	5.22	4.22
Males	41	5.37	4.98
MARITAL STATUS:			
Married	40	4.00	3.49
Divorced	16	6.69	5.12
Single	15	7.93	5.85
Other	6	3.67	3.27
EDUCATION LEVEL:			
Grade School	8	4.87	2.00
High School	38	5.87	4.71
College	12	3.50	2.61
University	18	5.97	5.97

Table V-13.Analysis of Variance Comparing Marital Status on Depression Scores (Age Cluster 2; 29-Up)

Variable	df	SS	MS	F
MARITAL STATUS:				
Between Groups	3	218.4	72.8	
Within Groups	73	1399.7	19.1	3.80*

(Singles are higher in depressive symptoms than married individuals)

[* = P < .05]

Other Findings

Looking at data concerning the testing scales employed, no relationship was found between age and identity formation for the entire population which was not expected (See TABLE V-5). Identity formation is assumed to increase with age. This finding of no age association does not provide support for this test as a measure of identity formation. Furthermore, identity scores correlated at a high level with self-esteem (TABLES V-5, V-8 & V-9) in all three populations, indicating that the Identity instrument may measure some construct similar to self-esteem, rather than identity formation.

VI. LIMITATIONS AND IMPLICATIONS

A. Introduction

To complete this report, the limitations associated with the study and data collected is discussed. Some limitations do exist, suggesting that any conclusions based upon the results from this study be accepted with caution. The difficulties regarding the research procedures are presented first and then possible implications are discussed with particular attention to the needs of counsellors. The possible advancements and implications implied by the results gathered are divided into two parts:

(1) implications regarding relationships between constructs and

(2) implications regarding the instrumentation.

B. Methodological Limitations for the Study

The "n" for this study was 162, consequently, the sample is fairly large and was assumed to be representative of the general community. However, the data gathered is much less accurate than might be achieved from an epidemiological study. The most limiting factor related to this issue concerns the population of respondents. The respondents were not randomly selected for participation, so there is the very real chance that the sample group is biased in some way and therefore not completely representative of the general community. For example, since most subjects were recruited from shopping malls it is possible that the subject population is somehow biased along variables related to individuals who frequent such places. The kind of variables which are involved, are unclear but it was apparent that, many of the occupations of subjects were related to sales and services found in malls such as store managers and sales clerks. Similarly, a very pertinent bias concerns the group of people who declined to participate in the study. There is a very real possibility that the group of people who did not participate were in some way different from those people who did. In addition, it is possible that the large segment of the sample with ages 18 to 28 may hide important trends

present with older individuals. Finally, a last restriction concerns Age Cluster 2. The older respondents are all individuals recruited at shopping malls, thus, they represent the elderly who are active in the community. Older individuals who are not so active may achieve different scores than their active counterparts which could lead to different trends and relationships. The trends and conclusions in the current study must be restricted to active members in the community.

Data collection is limited solely to self-reports. While self-reports are relatively easy to gather and at times seem to be the only way of getting at internal psychological constructs in a objective way, this data collection method has many problems associated with it (Graham & Lilly, 1984). Self-reports are highly susceptible to intentional distortions. Such distortions are probably limited in this study because respondents had no clear ulterior motive for completing the scales and where not obligated to place their name on the forms. Demo (1985) explains that self-reported scores can also be influenced by unconscious mechanisms, emotional mood states, the need for social acceptance and the proclivity to respond in a socially desirable manner. These factors are all obvious sources of contamination and distortion, but little can be done to reduce the problem that was not already considered within the methodology followed for the current study. It should be kept in mind that there are several advantages in using self-reports. As Myers & Weissman (1980) explain, self-reports are economical, take little training to use and reduce the influence of observer bias.

Difficulties have been found with self-esteem measures in particular. Bingham (1983) has reported that almost all tests of self-esteem, including the SEI, do not seem sensitive to high levels of self-regard which creates a ceiling effect. With such problems, individuals scoring in the upper levels cannot be adequately separated, which could veil important relationships and thus limit any conclusions possible.

C. Implications

The implications of this study are many and seem full of promise which may counter-balance the above limitations. Results of this study seem to reflect on both the usefulness of the measures used and possible relationships between the variables studied.

Measuring Scales

The application of the measuring instruments in the general population provided some idea on how appropriate the devices are to the general community and consequently of general use to counsellors. The findings provided some justification for using the Beck Depression Inventory, Levenson's IPC Scales, and Coopersmith Self-Esteem Inventory. Ceiling effects did not appear to be a major difficulty with these tests. However, the results involving the Ego Identity Scale are unclear. It appeared that this instrument was measuring something very similar to the self-esteem construct rather than something uniquely different.

Construct Relationships

Although this study focused totally on psychological constructs, the results found do contribute to the fuller understanding of the interactions between different aspects of the human condition. Therefore, the depression, locus of control, and self-esteem constructs are valid areas of research as discussed earlier in this report. Conclusions concerning the identity construct are more tentative and implications remain uncertain.

To begin, results from this study suggest possible implications for researchers. The study demonstrated an important age difference involved in the relationship between locus of control and depressive symptoms. Other psychological constructs may also interact with depressive symptom differently depending upon the age of individuals. This seems an important caution for investigators working in the area of depression. Furthermore, both marital status and perhaps education, are important demographic variables needing attention when exploring depressive features.

Completing this study also assisted in determining the degree to which theories and beliefs regarding depression and depressive symptoms gathered in other studies on special populations can be generalized to the global community. This study provided evidence indicating that conclusions derived from a restricted population may, in fact, not generalize to other populations. It has been reported that an internal locus of control is independent of depressive symptoms or only weakly related to depressive difficulties (Burger, 1984). However, in the current investigation, this relationship was found only for the older age group and so seems to hold only for the older individuals. Furthermore, many of the interactions between depressive features and demographic variables were not found. Perhaps other beliefs regarding depression change across different populations.

Furthermore, the relationships determined provide a more accurate understanding of the depression phenomena and lead to new approaches for counselling or to modifications of traditional counselling approaches. For counsellors, attributing control of one's life to external forces could be viewed as problematic or possibly an early sign of depressive difficulties. As reported, several researchers (e.g., Donovan & O'Leary, 1983) do view an external control orientation as basically unhealthy and recommended therapeutic goals have frequently been the promotion of an internal locus of control which tends to represent both competence and mastery over the world (Levenson, 1983). Based on the current results, externality was associated with unhealthy aspects but only in the younger age group. Consequently, an external orientation does not seem to be inherently unhealthy. In fact, an external orientation may actually be part of a normal maturational process where a person accepts the fact that external forces are important. Therefore, older individuals may find themselves less upset with the idea that forces outside themselves have powerful influences over their life. It seems reasonable that the counselling direction, while working with a young depressed client, could focus on the client's external orientation as a way of helping that individual resolve some of his or her personal problems. With older individuals, this approach does not seem reasonable as a focal point. Instead, self-esteem seems to be more of a crucial issue, at least when

depression is involved.

For assessment purposes, the age difference found provides important information. With younger individuals, an assessment of control orientation may reflect on a possible depressive mood but with older individuals an external or internal orientation may be unrelated to depression. Again, with older individuals it seems more beneficial more reliable to assess self-esteem and self-beliefs. Similarly, the degree of internal orientation while in counselling may be a measure reflecting improved mental health and the remission of depressive features when working with younger individual. With older clients, an increase in internality may not be a valid representation of improvement.

Finally, the results from this study do support the notion that marriage may be a protecting influence where depression is concerned. Married individuals who are older seem to experience less depressive symptoms. However, the same interaction was not found for the younger people. Perhaps marriage is more stressful for younger people.

D. Future Research

The findings discovered during this study point to various research directions for the future. Firstly, it seems important to perform more research on depression as a normal mood state within the general community. Specifically, the investigation currently being reported on requires replication in order to determine if findings remain consistent and to determine if any biases affected the results found. Subsequent research should include a more refined selection of subjects so that randomly selected populations can be gathered.

Additionally, it seems beneficial to complete studies dealing with depression by separating different age populations and comparing the results. Studies could be conducted that examine children, adults and elderly people. Research involving older individuals is especially needed, since, in the study reported, the younger ages were over-represented. Furthermore, in this study, all subjects (except one) who had extremly high scores on external control subscales without corresponding high depression scores were in the 51 to 61 age range.

It might, therefore, be interesting to examine some of the relationships that determine the locus of control orientation of these older populations. Burger (1984), suggested that the influences of control orientation on depressive features may differ depending on the amount of importance a person places on maintaining a sense of control. Perhaps older individuals view internal control as less important. Therefore, they are less disturbed when they believe external forces are in control of their lives. Further research in this area is needed.

Considering the current findings, the discrepancy mentioned earlier concerning locus of control and depression seems to require resolving. It was reported that some authorities believe depression is partly influenced by self-blame or guilt. However, the current investigation suggests that in some populations an internal sense of control corresponds with a decrease in depressive symptoms whereas an external sense of control corresponds with an increase in depressive symptoms. Examinations are needed in order to determine how both self-blame and an external control orientation can influence the same construct in the same manner. Perhaps the discrepancy is more conceptual than experimental. Some individuals suggest that there are significant conceptual differences between an internal locus of control and internal responsibility. Persons could then assume that there is little relationship between their behavior and obtaining reinforcement (external control) but still feel they are personally responsible for events going badly. As O'Leary et al (1977) suggest, a depressed individual may feel ineffective in dealing with life but also responsible for being ineffective. Work is needed in this area in order to refine locus of control into a more effective construct.

Finally, future investigations are needed that employ other measuring devices that are designed to measure the same constructs. The goal would be to determine if the results found during the reported investigation are consistent with the studies using other scales or tests.

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